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ABSTRACT

This report discusses relevant theories and principles of curriculum, pedagogy, and social organization of middle schools in order to serve as a focus for further research and development in teacher education. The first section of the three-part report concentrates on teachers' work with middle school students, and the challenges they face in establishing an appropriate instructional and social environment for early adolescents. The second part concentrates on teachers' work with one another as colleagues, grounded in the middle school emphasis on an interdisciplinary curriculum, team planning, and team teaching. The final section reviews the status of middle school teacher preparation in three states (California, Nevada, and Utah) and summarizes the approaches taken by some districts in providing a program of training and support to middle schools. A 67 citation bibliography is presented. (CB)

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FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

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THE INSTRUCTIONAL AND PROFESSIONAL ENVIRONMENT OF MIDDLE SCHOOLS: GUIDANCE FOR TEACHER EDUCATION

March 30, 1984

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U.S. DEPARTMENT OF EDUCATION
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INTRODUCTION

The accumulated theory and research on middle schools can be examined for the guidance they offer to programs of beginning and continuing teacher education. Issues of judgment and selection are critical here. Our aim is to select dimensions of the middle school experience that have been sufficiently well-developed in theory or in prior research to serve as the focus for research and development in teacher education. We have given ideas about middle school education ("philosophy") equal play with descriptions of prevailing practice. In taking both into account, we highlight one of the persistent dilemmas of teacher education: it must equip teachers to work skillfully and confidently while preserving a vision of what is possible, that may not always accord with typical practice.

This work concentrates on relevant principles of curriculum, pedagogy and social organization on which teacher education might be based. In the discussions that follow, we have identified selected aspects of middle school teaching that:

> are sufficiently important and consequential to student outcomes to deserve attention in programs of preservice or inservice education;
>
> are sufficiently complex or difficult to deserve attention in programs of training and support;
>
> can be interpreted in light of a set of theoretical assumptions against which specific practices can be judged, invented, refined, or abandoned, and in terms of which teacher education programs can maintain coherence;
>
> lend themselves readily to organized training and support, i.e., can be described and taught, and can be considered reasonably under the influence of teacher education at the university or district level.

The report is organized in three sections. The first section concentrates on teachers' work with middle school students, and the challenges they face in establishing an appropriate instructional and social environment for early adolescents. The second section concentrates on teachers' work with one another as colleagues, based in the middle school emphasis on an interdisciplinary curriculum, team planning and team teaching. A final section reviews the status of middle school teacher preparation in the Laboratory's three state region, and summarizes the approaches taken by some districts in providing a program of training and support to middle schools.

THE INSTRUCTIONAL AND SOCIAL ENVIRONMENT OF MIDDLE SCHOOLS

Contributions of Theory and Research

Middle school philosophy reflects educators' efforts to come to terms with the tangle of developmental paths taken by young adolescents. Avidly held by many, vigorously debated by some and ignored by still others, it represents an attempt to establish principles of curriculum, instruction and social organization.

The proposals that are made by middle school advocates do not always rest on clear evidence about what works in schools. In some respects, enthusiasm outstrips evidence. Nonetheless, the views of adolescent learning and development on which middle schools rest may offer a basis on which to organize experimental programs of training, support, and research. Advocates' proposals for middle schools permit us to examine what happens when theoretical assertions form the basis for curriculum decisions in teacher education.

A View of Early Adolescence

Proponents of middle schools argue that there are specific developmental characteristics of early adolescence--cognitive, social, psychological--that raise special considerations of curriculum design, pace and sequence of instruction, peer interactions among students, and the range of outcomes sought by teachers.

Range and variation in development. Researchers and teachers alike observe that the sheer range of variation in students' development poses problems for novice (and even experienced) teachers. According to research summarized by Dorman (1981), physical development spans a ten year period. A "typical" 13 year old might have the maturity of an adult or the characteristics of a child. Social, emotional and intellectual development appear similarly variable. Although most young people live through these years without severe stress or turmoil, the physical, intellectual and social changes are nonetheless profound.

Students entering a middle school or junior high school program present a range of "entry characteristics" that place heavy demands on teachers' ability to diagnose, plan and adjust--in teachers' words, to be "flexible." Added to the diversity in students' individual development is the cumulative disparity in their prior instruction and in the notions of "school" they bring with them from each of several feeder schools.

To the extent that middle schools constitute special circumstances and place special demands--above and beyond achieving qualities of "good teaching" and "good schooling" generally--the sheer diversity in these student entry characteristics accounts for much of the added challenge. Schools and teachers have the choice of saying that such diversity is a fact of life about which they can do little, or labeling it a condition for which they can systematically plan and organize. Programs of teacher education necessarily make similar choices, to ignore, simply to advise "awareness," or to teach systematically the requisite principles and skills of planning and organization.

A period of transition. Early adolescence is a critical period in the transition to adulthood. For purposes of school "effectiveness," this calls for simultaneous attention to dimensions of students' social, affective and cognitive development. It requires schools and teachers to value, plan for and organize for a broad range of student outcomes that go beyond academic achievement. These include:

The development of peer relationships that are satisfying and productive. Peer group relationships assume new dimensions and importance in early adolescence: "The most noticeable social change is the increasing importance of the peer group" (Dorman, 1981:4). Although most young people maintain a balance between their increasing commitments to peers and their reliance on their family, failing to preserve such a balance may have serious consequences for adult development (Elliott and Voss, 1974). Schools are in a position to influence the formation of peer groups by the way they choose to organize classrooms and the school at large. By so doing, teachers and schools can create a substantial opportunity to support adolescent development and a successful transition to adult roles. The opportunities are diverse, ranging from the design of intramural programs and other extracurricular activities to the daily conduct of classrooms. The benefits of structured cooperative learning have been demonstrated by research; of twenty-eight studies reviewed by Slavin (1980), almost half (42%) were conducted in the middle/junior high grade range. Slavin's conclusions are these:

> Structured cooperative or team learning has favorable effects upon students' mutual concern, the relationships among students of different racial or ethnic background, students' self-esteem, and students' enjoyment of school.
>
> For academic achievement, cooperative learning techniques are comparable to, and in some cases better than, traditional whole-group or individualistic techniques. Teachers need not compromise achievement outcomes to satisfy social developmental needs.
>
> Effects are most assured where teachers plan to insure task interdependence (all students must participate in order to complete the task) and reward interdependence (the success of individuals is tied to the success of the group). (See also Johnson and Johnson, 1975; Cohen, 1980;

and descriptions of "youth participation" projects, NCRY, 1974.)

Commitment to school and attachments to adults. "Bonding theory" and the research associated with it (mostly tied to research on delinquency) provide a framework for seeing conditions of school life in terms of their prospects for establishing and sustaining bonds between young people and others, commitments to law-abiding behavior, and investments in future education or work. Hirschi (1969) proposes four elements of the bond, all of which are addressed in some fashion or another in the middle school literature. (See also Johnson et al., 1981.)

> Commitment is fostered by academic success, opportunities to show competence in diverse areas, encouragement to pursue individual interests, fairness in the enforcement of school and classroom rules, and opportunities to exert influence. At issue are student involvement in the formation of rules, the pace and sequence of instruction, the range of student knowledge and skill called upon in activities, assignments, and tests, and the nature and perceived fairness of the grading system.
>
> Involvement is fostered by experiences that promise a sense of accomplishment, challenge, and rewarding interaction with peers and adults. At issue here are the range of available learning activities (e.g., the balance between exploratories and basics in some middle schools), the opportunities for students to take a responsible part in school and classroom life, the emphasis on active participation by all interested students, the distribution of rewards (and awards), and the approaches to grouping or teaming of students.
>
> Attachment is fostered by fruitful, satisfying interactions with adults or peers. At issue here are the involvement of all adults in "guidance," the nature of praise and criticism in the classroom, teacher-student participation in special activities, classroom involvement of community resource persons, community involvement by students, and the confidence in students conveyed by teachers.
>
> Belief is fostered by school and classroom rules that are seen as fair, firm and consistent, and by a tolerance for students' emerging questioning. At issue are students' involvement in rulemaking and other school governance, the fair and consistent enforcement of school rules, the balanced, straightforward treatment of difficult or controversial topics, the design of lessons to encourage questioning, inquiry, problem-solving, alternative solutions, and the development of higher order thinking skills.

Building self-esteem. Some observers argue that self-esteem is unstable and fragile during early adolescence, and that transition from self-contained elementary school classrooms to less protective configurations compounds the problem. Twelve-year-olds in junior highs were found to have lower self-esteem than twelve-year-olds in elementary schools (Simmons, 1973). Blyth, Simmons and Carlton-Ford (1983) concluded that transition into a junior high created problems in self-esteem, particularly for girls, in early adolescence. The problem, according to the authors, stems from the nature of informal peer associations and peer group formation during that period. Although these and other authors simply advise teachers and administrators to be "aware" of these difficulties, it appears there are at least three ways in which a more deliberate response might be made. First, an emotionally and physically secure environment can be constructed. Firm adherence to a few sound rules contributes to students' sense of physical safety. The principal of a school observed by Lipsitz (1983) spent considerable time designing student placement into "houses" to insure that "buddies" remained together. A teacher welcoming seventh graders to their first class in a junior high spent the first day in exercises designed to make the students at home in her classroom, in the school, and with the work they would encounter (Little and Bird, 1983). An uncelebrated side effect of Emmer and Evertson's (1981) manual, Organizing and Managing the Junior High Classroom, may be to ease the "transition" stress for individual students by making classroom routines predictable and certain. Attempts to involve all adults in guidance roles through homebase or advisor-advisee programs have similar aims.

Second, classroom instruction might be planned, organized and delivered to account for actual differences in entering ability and to insure that all students will experience success. This response acknowledges that self-esteem rests in large part on academic accomplishment, and that well-planned and well-organized instruction can achieve several outcomes, including a contribution to the self-esteem and self-confidence of the learners.

Third, there is some evidence that self-esteem is a function of the opportunities that students encounter. The more doors that are open to students, and the more access they have to the rewards the school has to offer, the higher (and more stable) their self-esteem is likely to be. The power of this argument is evident in the tales of the "failure" of counseling programs in which troubled and troublesome youth experience tremendous gains in self-esteem during their participation in special programs, only to have those gains eroded upon their return to "real world" settings in which they are still denigrated or excluded (see Romig, 1978). To respond to the problem of self-esteem by close attention to a structure of opportunities is to consider the nature of grouping criteria, the use of structured cooperative or student team learning, the variety of ways that students may show progress in academic work, the way in which students are recruited for participation in special activities, the design of athletic programs, and the number of students who receive public recognition for their contributions.

The balance between independence and group membership. In the transition to adult roles, students require both independent competence (and confidence) and the skills and willingness to work cooperatively with others. The premise is that an effective group of learners (or workers) is characterized both by independence and interdependence.[1]

Such arguments lead us to ask how schools are organized to create opportunities for young people to practice emerging skills of independence and interdependence. O'Reilly and Jarrett's (1980) study of student participation by eighth graders in K-8 and intermediate schools in Canada was based on the idea that effective schools for early adolescents should foster widespread student participation as a way of meeting the particular developmental needs for increased independence, leadership, and contribution to (membership in) community. Gathering self-report data from a random sample of 30 students in each of ten intermediate and ten K-8 schools, they found that students in K-8 schools reported more widespread and "deep" involvement than students in intermediate schools. Ward, Mergendoller and Tikunoff (1982) found that students in self-contained sixth grade classrooms encountered tasks of greater complexity, variety and responsibility than did students in junior high classrooms. These findings are consistent with those of Barker and Gump (1964), who found that small school settings promoted a greater range of opportunities for a greater proportion of students to assume responsible roles. Lipsitz (1983) argues that the size of the school (or presumably the class) is not as important as the size of the "frame of reference"; middle schools that place students in teams or houses of 150 create small communities that promote a sense of belonging, attachment and security.

These dimensions of social development raise issues of social organization: the degree to which such outcomes are widely valued, are taught and practiced, are made integral parts of life in the school and in each classroom, and are rewarded. According to Lipsitz (1983), successful schools for young adolescents self-consciously, deliberately choose to become environments that promote social development as well as academic competence.

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[1] Slavin (1981) argues, for example, that the view of the outside world as "highly competitive" is a misled and misleading one. He argues that gains are made, personally and collectively, by cooperation in small groups. Competition prevails more at the intergroup than the interpersonal level. Those who succeed are most likely to be those who are skilled at leading and working in groups. Further, the decision whether or not to foster the values and skills of small group cooperation is no longer limited by technical considerations; the research is sufficiently well advanced to establish the effects of fostering cooperation in schools, and the training sufficiently well developed to make it practical on a large scale. Rather, the decision is presented as a policy choice, driven by our collective sense of how we wish to educate our young.

These dimensions raise issues of teacher preparation as well. How are teachers prepared to teach skills of independence and interdependence? To organize classroom life so that it affords opportunities for young people to practice and refine those skills? How are teachers prepared to accommodate and influence the development of peer relationships? How can teachers learn to conduct their daily interactions with students in ways that build attachment and commitment--that lead young people to want to come to school, to want to learn, to have a stake in doing well now and in the future?

The nature of cognitive development. The two prominent cognitive development arguments in the middle school literature derive from Piaget (adolescents' emerging capacity to perform formal operations and engage in abstract reasoning) and from Epstein (early adolescents may experience a plateau in brain growth with consequences for their ability to absorb new concepts). (See Dorman, 1981.) Whatever the degree of support for either argument, the main consequence appears to have been to lead teachers and others to take seriously the principles of curriculum pace, instructional sequence, and the balance of demands for concrete and abstract thinking in the classroom.

One study of problem-solving illustrates some of the possibilities and limits of research on cognitive development (and particularly on higher order thinking skills) as a source of practical guidance for teachers or teacher educators. In a study of the transition from concrete to formal operations, or abstract reasoning, four of fifteen randomly selected fifth and sixth grade students were recruited for a problem-solving study (Strahan, 1980). The four were designated as "transitional" from their scores on two tests of reasoning ability. The students participated in fifty-five problem-solving tasks compiled by a researcher. As students worked the problems, the researcher elicited comments from them: How did you figure that out? What were you thinking? What's going through your mind as you try to solve this problem?

Four primary problem-solving strategies emerged:

Visualization: students create mental pictures of solutions.

Experimentation: students test hypotheses and try out possible solutions.

Abstraction: students form generalizations, synthesize concepts and eliminate factors that do not apply.

Extension: students apply strategies from previously solved problems or other circumstances to new problems.

Although this study is limited in scope, it illustrates some of the possible contributions that might be made in programs of teacher education. Of particular relevance are the description of a set of problem-solving strategies, the researcher's method of having students "think aloud", and the reported excitement of participating students as they completed problems, made up their own test items, and devised thinking games.

Nonetheless, the elements that are left out of the Strahan study are as important for teacher education as the findings that are reported; they illustrate the dilemma that teachers and teacher educators face in attempting to make sense (and use) of small, isolated pieces of research on large, interwoven problems. First, it is not evident that the chosen research problem sheds light on the most common demands for higher order thinking that students encounter (e.g., finding an approach to word problems in math). Second, the study was designed to detect patterns of problem-solving, but not to test whether deliberate efforts to teach problem-solving strategies to students resulted in measurably increased capabilities or self-confidence. Third, the participants in the study represent only one quarter of the students who were originally tested. A concern with patterns of development will lead teachers and teacher educators to wonder about the characteristics of the remaining students. What does "transitional" reasoning ability mean and how common is it in early adolescence?

The Strahan study introduces some general principles about the character of higher order thinking. Other studies illustrate specific possibilities for problem-solving in the classroom. In an example reported by Lipsitz (1983), students completed word problems attached to laminated magazine pictures, working together until everyone was clear on a problem-solving procedure. They then dove into a pile of unlabeled pictures to make up their own problems; the best were laminated and filed with students' names on them for next year's students. Efforts to build cognitive skills have merged with activities designed to promote membership in a school community. By contributing new problems, the students joined a tradition. By designing the lesson in this fashion, the teacher displayed the ability to plan for multiple outcomes in a single lesson.

Either study, taken alone, raises the question about how far teachers or teacher educators would have to stretch to make systematic application of research findings. Strahan's discoveries contribute an understanding of problem-solving principles, but offer little concrete guidance to teachers in classrooms; Lipsitz' descriptions are convincing illustrations of classroom possibilities, but do not reveal the guiding principles that would allow other teachers to do the same exemplary job. In combination, the two studies might move teachers to integrate higher order thinking into more areas of curriculum. For teacher preparation, the implications lie in the areas of: evaluating research findings, integrating research into curriculum, assessing materials, lesson design, diagnosis and testing, intertwining academic and social outcomes, and assisting teachers (as models or exemplars of learning) to engage in higher order thinking.

Student characteristics and teacher education. A reasonable question posed by programs of beginning and continuing teacher education might be, "What's different about teaching early adolescents that requires special preparation?" A reasonable answer might be the following:

> "Diversity." The range of student entry characteristics--cognitive, social and affective--may be greater than that experienced by teachers at any other level. Teachers' technical and social skills are pressed: skills in diagnosis for purposes of instructional planning; skills in influencing peer relations in the classroom; skills in knowing when to apply limits and when to give latitude; skills in planning lessons that accomplish both academic and development goals.
>
> "Transition." Throughout the middle school or junior high school years, students are engaged in profound changes that affect their performance in the classroom, their interactions with others, their self-confidence and self-concept. Teachers respond by developing the ability to "read" groups of students on a day-by-day basis, by working toward flexibility without losing some commitment to standards. Middle schools in particular respond by a deliberate attempt to organize around developmental considerations, e.g., by stressing experiential learning and by combining instruction in basic skills with exploratory programs. In these schools, the demands on teachers are compounded. A simple "awareness" of transition is not enough; teachers are expected to teach to and for transition.

A View of Instructional and Social Organization

The previous section concentrated on student characteristics. In this section, we concentrate on school and classroom arrangements that demonstrably contribute to student achievement, social integration, and "bonding".

From philosophy to practice in middle schools: recommended practices. Some descriptions of middle schools, and some comparative studies of middle schools with other arrangements (K-8 or junior high)[2] reveal some of the organizational possibilities and trace some of the apparent consequences of organizational decisions.[3]

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[2] Although much attention has been given to the broad array of grade configurations in schools for early adolescents (Educational Research Service, 1983), we have chosen to concentrate on the internal organizational and instructional characteristics of schools that call themselves middle schools (regardless of grade configuration). By invoking the label of the middle school, districts presumably call attention to a particular set of philosophical tenets. The rationale and implementation plan for middle schools are typically

In an effort to translate views of early adolescence into appropriate characteristics of schools, Joan Lipsitz and associates at the Center for Early Adolescence name seven characteristics of the "developmentally responsive school." Unlike some other lists of recommended practices or structures,[4] the Center's recommendations are tied explicitly to particular developmental characteristics and (less explicitly) to intended outcomes for students. One might quarrel with any such "list." Nonetheless, by organizing their recommendations in this fashion, these advocates for quality education for early adolescents have made it possible to distinguish underlying assumptions from strategic principles and to distinguish both of those from particular programs in individual schools.

Treated as organizational, curricular and instructional provisions, the recommendations are these:

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[2] guided by such tenets even when the impetus for creating such schools is economic, e.g., relieving overcrowding, and even when the accomplished reality falls short of the stated aims. Further, and perhaps most pertinent for our purposes here, decisions about grade configuration are beyond the influence of teacher education. And, in the absence of clear evidence that differentiates the effects of more than thirty current configurations, it is unlikely that programs of training and support (even at the district level) could be designed to accommodate the circumstances associated with each configuration.

[3] Research is inconclusive on any systematic differences between most middle schools and most junior highs, though where there are differences they appear to be in favor of the middle school (ERS, 1983).

[4] Brown (1981, cited in ERS, 1983) names the following "key ingredients for successful middle schools:" grade organization (at least three grades), team teaching, instructional planning (by teams), student grouping (variety), flexible scheduling, continuous progress, individualized instruction, independent study, instructional materials (varied), basic skills (remedial programs; reinforcement), exploration, creative experiences, social development, intramural sports, focus on (physical) development, individualized guidance (including teacher involvement), home base program, values clarification, student evaluation, transition from elementary to high school (gradual). Riegle (1971, cited in ERS, 1983) lists these characteristics: continuous progress, multimedia approach, flexible schedules, social experiences, physical experiences, intramural activities, creative experiences, security, evaluation, team teaching, planned gradualism, exploratory experiences, guidance programs, independent study, basic skill extension and adjustment, community relations.

Provisions for diversity: As conceived by the Center for Early Adolescence, program diversity means opportunities for students to develop new abilities, cultivate new interests, and participate in new relationships with peers and adults. The key word is "variety." Examples include variety in learning activities in and out of the classroom, variety in print and nonprint materials, a balance of exploratory classes and basic curriculum, flexible scheduling and flexible grouping.

Described this way, program diversity acknowledges the several kinds of growth and transition that young people experience after they arrive at middle school. Although not emphasized this way by the Center, program diversity may also require a capacity for judging the intellectual, emotional and social characteristics of students when they enter middle school; to the criterion of "variety" one would add the criterion of appropriateness, or "match."

Provisions for self-exploration and self-definition: focusing all courses and activities on skills that help students integrate developing capabilities and interests into a sense of who they are. Examples offered include a guidance program focused on self-exploration and involving all adults in guidance roles; exploratory and activities programs designed to capture diverse student interests and to expand their capabilities; encouragement to students in classes to identify questions as well as simply provide answers to others' questions; specific techniques like keeping a journal.

These examples touch upon two of the three routes to self-esteem, proposed above, i.e., providing for physical and emotional security, and providing an open or inclusive structure of opportunities in which all or most students can shine. In addition, examples tied to well-planned and well-organized instruction would explicitly acknowledge the connection between academic success and self-esteem.

Provisions for meaningful participation in school and community: students' needs for independence, responsibility, contribution, influence, leadership, and membership in a larger community are met by student-initiated study, responsible roles in school governance and operations, community service, and participation in the development of curriculum materials. Such provisions contribute to the "involvement" and "commitment" elements of the bonds formed by early adolescents.

Provisions for positive social interaction with peers and adults: small group learning assignments, opportunity for informal social congregation among students and meaningful relationships between adults and young people. These provisions contribute to bonding by building attachment among peers and between students and adults.

Provisions for physical activity: noncompetitive physical activity that takes into account varied sizes and abilities, and that concentrates on life-long activities.

Provisions for competence and achievement: well-planned and well-organized instruction, generous use of rewards and praise, opportunities for students to evaluate their own performance, and diversity in curriculum.

Provisions for structure and clear limits: these provisions contribute to students' belief and commitment by involving students in establishing rules and consequences and by concentrating on learning and responsibility rather than punishment.

Organized as a set of theoretical relations, with connections to one another, to context and to student outcomes, these recommendations might take the form shown in Figure 1. Cast in these terms, they lend themselves to programs of research, training or incremental experimentation in schools or districts.

From philosophy to practice: observed practice in middle schools. Descriptions of life in middle schools serve as a basis for judging which aspects of theory or "philosophy" are best represented in current practice (a frequent concern of middle school advocates). They serve also as a basis for judging which aspects of theory prove most difficult and complex to master. The distinction between ideas that are widely practiced and ideas that are rare but promising is crucial to programs of training and support, since it forces choices about curriculum design and emphasis based in part upon theory (what practices are worth preparing for, even if they are not presently in use) and in part upon prevailing practice.

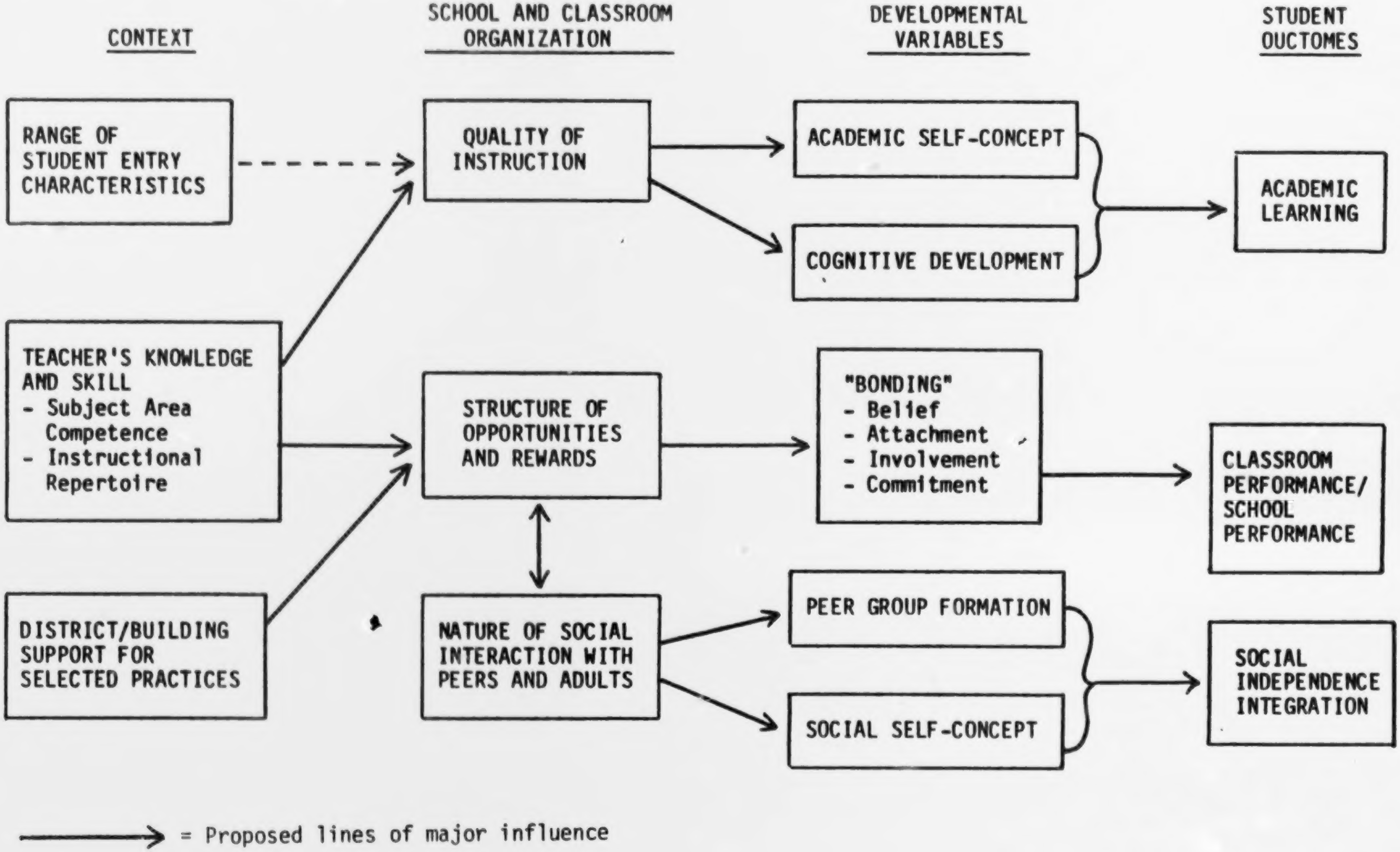
Observed practice in the organization of curriculum, instruction and social relations in middle schools can be examined for the guidance it provides in making such choices.

Curriculum and instruction: How are middle schools recognizably different from other schools in curriculum and the delivery of instruction? Advocates propose a high proportion of "hands-on" activities and a mix of "exploratory" options with courses in basic academic disciplines. For example, an inner city "magnet" middle school teacher has designed a science program that offers students choices in anatomy, botany, ecology, energy, geology, machines, matter, waves, weather and zoology, with activities geared to different levels of students' present competence. Students can demonstrate their command of the subject by: performing experiments, writing reports, preparing graphics or building special projects. Meanwhile, the teacher keeps track of students' strengths and weaknesses in classifying, organizing and applying information, and generalizing and synthesizing experiences. In this instance, a teacher's skill in curriculum organization and in managing several kinds of instruction simultaneously are equally of consequence as the teacher's specialized knowledge of science (Lipsitz, 1983).

Flexible scheduling, frequent diagnostic testing and common planning among teachers (often but not always in interdisciplinary teams) reportedly permit teachers to make decisions that are responsive to students' progress. Decisions about time and groups, under

FIGURE 1.

THEORETICAL RELATIONS DESCRIBING THE MIDDLE SCHOOL LEARNING ENVIRONMENT


CONTEXT
SCHOOL AND CLASSROOM ORGANIZATION
DEVELOPMENTAL VARIABLES
STUDENT OUCTOMES
RANGE OF STUDENT ENTRY CHARACTERISTICS
TEACHER'S KNOWLEDGE AND SKILL
- Subject Area Competence
- Instructional Repertoire
DISTRICT/BUILDING SUPPORT FOR SELECTED PRACTICES
QUALITY OF INSTRUCTION
STRUCTURE OF OPPORTUNITIES AND REWARDS
NATURE OF SOCIAL INTERACTION WITH PEERS AND ADULTS
ACADEMIC SELF-CONCEPT
COGNITIVE DEVELOPMENT
"BONDING"
- Belief
- Attachment
- Involvement
- Commitment
PEER GROUP FORMATION
SOCIAL SELF-CONCEPT
ACADEMIC LEARNING
CLASSROOM PERFORMANCE/ SCHOOL PERFORMANCE
SOCIAL INDEPENDENCE INTEGRATION
= Proposed lines of major influence

the control of teachers, change frequently on the basis of observed progress. Even among "successful" middle schools, however, teachers' participation in such practices appears uneven (ERS, 1983; Lipsitz, 1983).

On the whole, there appears to be more innovation and variation in school level organization (e.g., the use of teams) than in the nature of the academic curriculum or patterns of classroom instruction (Ward et al., 1982; ERS, 1983; Lipsitz, 1983). Studies that have recorded actual classroom practices (for example, Mergendoller, Mitman and Ward, 1982; and Lipsitz, 1983), show that curricula and many teaching patterns differ very little.

To the extent that middle schools have expanded the structure of opportunities open to students and have personalized the interaction among students and adults, it has been through impressive attention to an array of exploratory offerings and special activities. In four "successful" middle schools observed by Lipsitz (1983), all had some version of a three divisional curriculum: a core academic curriculum, a unified arts curriculum, and a set of exploratory programs, courses or activities. Overall, the greatest diversity lay in the organization of the exploratory components of the school program; although the principal of one school placed great emphasis on the development of interdisciplinary thematic units, less diversity was generally observed in the handling of the basic academic curriculum. Students, parents and visitors alike were impressed with the level of thought, energy and creativity that teachers and administrators devoted to the "special" activities of the school. But in these schools, as in junior high classrooms observed in other studies, the diversity in special programs was not mirrored by variety in the teaching of basic skills. When students interviewed by Lipsitz (1983) describe what is special about their schools, they celebrate the special courses and activities as being the most "fun" and the occasions on which they "learn most." Observers in middle school classes typically report little difference in the handling of basic academic curriculum in middle schools and traditional junior high schools (ERS, 1983). In a personal communication (November 1983), Lipsitz reports that the "Achilles' heel" of middle schools may well be curriculum, and predicts that close curriculum examination will be the next step to improve middle schools.

Variety and innovation in instruction, too, are more likely to be evident in exploratory courses (and in elementary school classrooms) than in middle school academic classrooms. Some observers, for example, report remarkably little inquiry in these classes--little opportunity or obligation for students to pursue questions of their own choosing, to seek alternative solutions to problems, to explain or defend their answers. Ward, Mergendoller and Tikunoff (1982) found more variety, complexity and opportunity for responsibility in self-contained elementary school classrooms than in junior high classrooms. There is some evidence that the variety, at least, is a function of time; middle school teachers who teach "blocks" are more likely to include a variety of activities than teachers who teach 45 or 50 minute lesson segments (Erb, 1982).

Lounsbury, Mariani and Compton (1980) shadowed 100 seventh graders in 100 different schools in 30 states. Volunteer school sites were recruited from registrants at the 1976 Conference of the National Middle School Association. Among the main findings were these: that there was a marked "sameness" in the instructional program across schools; that the meaning and relevance of curriculum offerings were unclear; that the good rapport between teachers and students was somehow independent of the business of learning.

That is, the closer one gets to classroom practice and thus to practices presumably influenced by programs of training and support, the less one finds observable variation and innovation. To the extent that large theoretical principles are played out in the small, day-by-day, moment-by-moment interactions among students and adults, this observation assumes considerable importance. Though there are exceptions of the sort celebrated by Lipsitz (1983) in *Successful Schools for Young Adolescents*, the issue for school districts and for programs of teacher education is one of achieving widespread, patterned practice. Exceptions persuade us that good theory is eminently practical under a range of circumstances; the rule, or common practice, may require teacher education to consider issues that go beyond the teacher of theory to matters of shared belief about teaching and learning, to insuring adequate technical knowledge and skill, and to the organization of opportunity and rewards in schools.

School organization and classroom instruction. To what extent does school level organization make curricular and instructional experimentation more likely? A study of teaching strategies in core and departmentalized classes was intended to locate differences, if any, in use of: experience-based instruction, issues of immediate concern to students, student directed learning, decision-making, values clarification, multiple source of information, and teacher role (advisor, co-learner, facilitator) (Erb, 1980). The sample consisted of 14 eighth grade classrooms (492 students) of which four were core and ten were departmentalized. All classes were located in junior high schools with a 7-9 grade configuration; for our purposes here, we assume that the "core" arrangements approximate core or block scheduling arrangements in a middle school by offering possibilities for multidisciplinary perspectives, variety in activities, student-student interaction, and close involvement of teachers and students. Data consisted of 42 half-hour videotapes.

No substantial differences were detected between core and departmentalized classes with respect to student socialization, control of student behavior, learning tasks or thinking processes. Regardless of whether they were assigned to core or departmentalized classes, students seldom talked with each other, teachers dominated the talk, and student responses were limited to short, recall answers to questions. Students seldom elaborated with explanations or interpretations, and were rarely asked to state preferences, discuss consequences, back up statements with logic and evidence, make value judgments, or express feelings. Teachers in core classes gave students more individual attention which may be an artifact of the greater range of activities and higher volume of seatwork used in the longer "core" periods.

All in all, core classrooms were no more problem-centered and student-centered than traditional departmentalized classrooms. A philosophy which emphasizes the need to create opportunities for establishing independence, developing decision-making skills and increasing the role of peers was no more apparent in core than in departmentalized classes.

Sinclair and Zigarmi (1979), however, traced the relationship between students' participation in interdisciplinary team or departmentalized arrangements and selected student outcomes: their achievement, perceptions of school environment and evaluations of teachers. Although they found no significant differences in students' attitudes toward their teachers, they did find differences in achievement and school climate perceptions that favored the interdisciplinary arrangement.

Social development and social organization: Every school makes decisions that in one fashion or another, for good or ill, deliberately or inadvertently affect students' social development and social relations. At the school level, decisions about the structure of houses, teams, or grades affect the size and character of the social world that students inhabit. Team or house membership appears to foster a sense of security, belonging and enthusiasm, both for students and teachers, not characteristic of departmentalized structures (Ashton, Webb, and Doda, 1982; Sinclair and Zigarmi, 1979; Lipsitz, 1983).

Opportunities for effect are many and varied, in and out of classrooms. Examples derived from practice include approaches to instructional grouping within and across classrooms (Filby, Barnett and Bossert, 1983; Rosenbaum, 1980), the use of cooperative or student team learning (Slavin, 1980), the organization of classroom activities to permit and promote high levels of interactions among students or between students and adults (Lipsitz, 1983; Bossert, 1979).

In schools observed by Lipsitz (1983), activities frequently included large numbers: a production of the Wizard of Oz involving 500 students, and camping trips involving 90 or 100 at a time. Some schools, for good reason (e.g., a safe school in an unsafe neighborhood), confined their activities largely to the school boundaries, while others have generated extensive involvements in the community. Students in many schools gain a stake in the school by helping to decide the rules that will govern their lives together. In one school, students helped the faculty move into a new building. Now, they help the adults keep the building clean and picked up, and have worked with teachers to build a new nature trail. In math classrooms, students add to the inventory of challenging word problems. (In one of several school-based "youth participation" projects described by the National Commission on Children and Youth, students worked with teachers and one another to develop entire science units (NCRY, 1974). In another school, students and teachers created a farm as part of a science unit on environments. Over a period of years, it has come to include a garden, an orchard, and a barn housing sheep, goats, rabbits, ducks, chickens, quail and turkeys. Experience in maintaining the farm is integrated in the curriculum, and older students help younger ones pass the "practicals" exams that signify students' competence in caring for animals, land and equipment. In an effort to center education on the "world of real things" (Lipsitz, 1983:229), one school has combined an extensive community service program with opportunities for "apprenticeships" and a strong and diverse curriculum in the arts. Yet other schools offer practice in responsibility by designing a collection of jobs for which students may apply (and for which they are systematically screened, interviewed, prepared--and from which they may get "fired"). A school with many handicapped students works toward mainstreaming in part by making all students responsible for helping others when they need help, and in part by having an awareness day on which students assume a handicap (being blind, being confined to a wheelchair) with which they must cope for the day.

The applications are many and varied; the principle of "responsible and satisfying membership" runs throughout. Social goals are translated into activities, opportunities, and rewards. Among the schools identified by Lipsitz as successful (on criteria that include the incidence of troublesome behavior), academic expectations differ, but the social and behavioral expectations are the same. These schools reduce the size of groups, involve students in governance (including rulemaking), establish orderly classrooms, provide structures within which individuals can assume responsibility and peer groups can flourish (see also Rutter, 1979). The particular practices for doing all these vary according to the cultural background of the students and community tolerance.

Observations in these successful middle schools are consistent with the findings of other studies on school and classroom orderliness. A study of violence and vandalism sponsored by the National Institute of Education (NIE, 1978) found that these and other troublesome behaviors were diminished when schools established rules that were "firm, fair and consistent." A student in one of Lipsitz' four schools exclaimed, "There aren't many rules, but if you break them you die!" In both studies, adults typically took the time to resolve small incidents in ways that showed students the adults care (and care in part by preserving high standards of behavior and accomplishment).

Studies of orderly management in the classroom provide similar confirmation. Evertson and Emmer's (1982) one-year study of classroom management identified systematic differences between relatively more effective and relatively less effective teachers with respect to management approaches. Data collected on a sample of math and English teachers during the first three weeks of class included classroom observations, time use logs, student engagement rates, student achievement and attitude data. Main differences were these: effective teachers taught students the rules and procedures rather than simply announcing them; and effective teachers monitored the use of rules and procedures and were consistent in their enforcement. Further, these teachers spent more time on task, communicated the expectation that class time was for work, assigned and kept track of work.

On the whole, however, observers report that systematic attention to social organization occurs largely at the school level (e.g., house plans, and student involvement in school governance) and less demonstrably in day-to-day classroom life (ERS, 1983). By organizing students into teams or houses, some middle schools create opportunities for student peer relationships and adult-student interaction that are made more difficult in larger, more "anonymous" settings. Teams, houses, or "sets" all prove to be a way of producing small communities within larger schools, giving students a sense of membership. In one of Lipsitz' four successful schools, students were more likely to tell a visitor what team they were on than what grade they were in. Teams had their own logo, their distinctive approaches to curriculum and instruction. Teachers cited the team arrangement as the most important feature of the school, an antidote to student alienation and teacher isolation. Lipsitz' viewpoints and observations are further supported by research on the effects of school size (Barker and Gump, 1964) and on schools' influence on delinquency (Johnson et al., 1980).

Still, to ask school boards, administrators and teachers to take deliberate and explicit account of social developmental requirements in organizing classrooms and schools is to ask them to entertain an unfamiliar viewpoint and test unfamiliar practices. Schools that have made developmental outcomes a priority have succeeded in part by altering the conventional view of teachers and teaching, e.g., by making "guidance" part of the job of every adult. Such departures from conventional classroom roles are not easily wrought. Despite the declared importance of advisor-advisee programs, for example, they prove to be among the least often and least successfully implemented of the recommended middle school features (ERS, 1983). Similarly, structured cooperative learning has been more often encountered in the research literature (where it has been shown to be both powerful and practical) than it has been witnessed in practice in classrooms. The prospects are good that cooperative learning can contribute to the social development of early adolescents, but the requisite perspectives, skills and role relationships are unfamiliar and first attempts to learn them often clumsy.

The Broader View: Guidance from the Effective Schools Literature

One might argue, as Lipsitz (1983) does, that a school can be developmentally responsive without being successful. Successful schools measure up to threshold criteria related to achievement and safety; they show themselves able to overcome differences in students' family background; they pursue competence in learning and equity in social relations; they function well in response to or in spite of unresolved national policy issues.

The relevant characteristics can be stated simply, but can be accomplished, it seems, only with considerable persistence, commitment, skill, and organization. Those characteristics that speak most directly to the social and instructional organization of the middle school are these:

A clearly stated school philosophy that is widely known and accepted and is consistently evident in practice. Decisions in relatively more successful schools are made on principle, driven by agreement about what the school stands for, what is important. There is strong emphasis on why things are done. The leaders of the school have a vision, they are ideologues. In acting so, they have incurred the burden of making good judgments about directions worth pursuing, and the obligation to share in the risks lead the way (Edmonds, 1979; Bird and Little, 1983).

Adults and young people in these schools share a sense of school community. Teachers can articulate school goals, and appear to subscribe to a common set of aims and values. (One might ask, for example, whether teachers in middle schools can state the major tenets of a "middle school philosophy".)

Positive expectations of all children are conveyed by close attention to individual student progress. Teachers praise students and show appreciation for their accomplishments more than they criticize their failures. Achievement, attendance and behavior are better in schools where students have many opportunities to assume responsibilities and to participate in the running of the school (Rutter et al., 1979).

Emphasis on academics that is visible in classrooms. A common feature of successful schools is their public, persistent commitment to achievement in basic skill areas (Edmonds, 1979; Rutter, 1979; Brookover, 1977). In middle schools observed by Lipsitz (1983), standardized testing programs appeared to be playing a positive role by calling attention to basic skills on a regular basis. Without falling prey to a singleminded concentration on basic skills, unrelieved by other pursuits, these middle schools place considerable emphasis on achievement in English and math. In one school, written composition is taught in all subjects; in another, teachers teach reading in all content areas; in still another, special activities ("Circus Day") are designed to provide practice in basic skills at the same time that they offer fun and variety.

System for evaluating student progress. Edmonds (1979) lists as one of five recurrent characteristics of effective schools a system for monitoring and evaluating student progress. Dorman (1981) includes in an "assessment program" for middle schools an item on grade reports, emphasizing the use of detailed and meaningful narrative comments. Interdisciplinary teams have the collective capacity to monitor student progress closely (Ashton, Webb, & Doda, 1982). A departmentalized junior high school has organized its math and English curricula to permit pre- and post-tests on selected skills every three weeks, with associated gains in achievement scores (Weyand, 1983).

Strong administrative leadership. Administrative leaders have a vision of what the school can and should be, and clearly articulate expectations for staff and students (Edmonds, 1979; Little, 1981; Dwyer et al., 1983; Bird and Little, 1983). Each of Lipsitz' four successful middle schools was led, not simply managed. In each, a principal of vision, competence and persistence shaped the views and the behavior of students and staff.

Guided both by the effective schools literature and by a philosophy of "developmentally responsive" schooling for early adolescents, Lipsitz (1983) looked for standardized test scores that were around or above the local mean; low absentee rates among students and staff; low incidence of vandalism, victimization and graffiti; low suspension rates; parental satisfaction; a reputation for excellence; and a sense of "joy" among adults and students. The four schools upon which she concentrated most attention demonstrate the possibilities and the complexities of turning good ideas into good practice. They represent success in four distinct sets of circumstances: one shows what can be done to meet the needs of students in a stable community that values back-to-basics and firm discipline; one shows what can be done with dwindling resources, obsolete facilities and a measure of Board support; one shows "success on a shoestring," when all external forces are arrayed against the school; and one shows what can be done in a middle class community with a plentiful supply of money, leadership and talent.

Asked about what is replicable about these schools, teachers made four claims:

> Any school can have a coherent philosophy about the environment in which adolescents learn.
>
> Any school can establish a climate of consistent expectations, a positive attitude toward students and a high level of energy in job performance.
>
> Any school can acknowledge teachers as professionals, capable of making intelligent decisions about curriculum and instruction.
>
> Any school can organize to reduce student and staff isolation (Lipsitz, 1983).

School environment and teacher education. The available research, while mixed in its results, helps to highlight those aspects of middle school teaching that require particular emphasis in programs of training and support. A reasonable question for university programs of teacher preparation and for district programs of training and assistance is, "What is distinctive about the curriculum, instruction and social organization of middle schools that lends itself to programs of training and assistance?" Reasonable answers include the following:

> At their best, middle schools are organized to be "developmentally responsive" as well as academically effective. Teachers in these schools diagnose and teach for intellectual, social, physical and emotional development; they organize their classrooms to influence social development as well as academic achievement; they create varied opportunities for students to work in rewarding ways with one another and with adults; they integrate opportunities for experiential, activity-based learning throughout the curriculum. In a comparative study of a middle school and junior high school, Ashton, Webb and Doda (1982) found systematic differences in the way that teachers defined their roles. The differences centered on the degree to which the teachers valued and emphasized "developmental" responsibilities versus "instructional" responsibilities. Relevant teacher skills include: diagnosis of skills; pacing and sequencing; development of a range of materials; planning for and conducting structured cooperative activities among students; integrating direct instruction and inquiry-based learning; classroom management that balances adequate structure with opportunities to learn independence; planning for interdisciplinary approaches to the development of particular concepts or skills; and more.
>
> In middle schools, more than in other secondary schools, teachers are asked to organize curriculum and instruction to achieve multiple ends: to insure competence in basic skills while fostering the ability to engage in abstract reasoning; to make progress on academic tasks while building students' social competence and self-esteem. At issue is the ability to examine curriculum, instruction and classroom organization for the prospects each has to contribute to the full range of valued outcomes.
>
> The range and complexity of the outcomes teachers are asked to reach, the compelling vision of a "philosophy" that is persuasive but abstract, the pace at which students change during these years (and the sheer energy with which they do so), all add up to a requirement that teachers call "thinking on your feet." The phrase captures teachers' hard-won ability to make proper judgments and to act on them appropriately and imaginatively. Given a chance for reflection in less harried circumstances, teachers say that judgments made "on your feet" are better with the time and opportunity to examine relationships among intent (outcomes), principles, materials and practices. At issues are skills

of inquiry that place "research" in the hands of teachers as part of a repertoire of professional practices.

Views of Teachers and Administrators

The bulk of the research literature on middle schools has been devoted to documenting effects on selected student outcomes (achievement, behavior, attitudes), describing the day-to-day life in middle schools, and summarizing some of the critical problems of implementation (e.g., designing a curriculum that balances basics and exploratories). Although some authors call for expanded programs of staff development (Molitor and Dentler, 1982), there is virtually no research on the relevant staff development issues. As a first step in investigating such issues, we have supplemented a review of the literature with interviews designed to examine work in middle schools from the standpoint of the teachers and administrators who work in them.

Learning what to ask. Teachers and principals offer rich, thoughtful detail on their work lives. The challenge has been to ask the kinds of questions that engage their interest and that illuminate the teacher education dilemmas and possibilities.

A work group of researchers and middle school principals at the Far West Laboratory began with the following basic curiosities:

> What aspects of teachers' work with middle school students most deserve attention in programs of preservice or inservice education? What aspects of curriculum, instruction or social organization are most crucial to student learning and development? What are the most complex or difficult principles and practices to master as a teacher? What have been the contributions of formal, organized programs of training and support?
>
> What does it mean to learn by experience? How do teachers, alone or with others, get steadily better at their work? How does teachers' work with one another as colleagues contribute to an effective school program, to quality teaching, to professional commitment or self-confidence?

Discussion guides were prepared for use in semi-structured interviews with teachers and administrators. Twenty-four middle school teachers and twenty middle school principals participated in interviews and contributed their advice and comments on the interview questions. A first round of seven teacher interviews and six principal interviews served as the basis for revising the discussion guide. The main consequence of the revision was to concentrate less on distinctions between formal and informal teacher preparation and more on how teachers and administrators have learned to work successfully in middle schools. The emphases of the two respective interview versions appear in Figure 2.

The Crucial Aspects of Middle School Work

What practices contribute most to students' learning, development, and enthusiasm for school? What practices are most important for teachers to do well?

On the grounds that no program of training can anticipate all demands, or build skill and confidence for all tasks, we asked teachers to report those aspects of their work with students that prove most crucial, difficult or complex. We asked them to describe parts of their work that they have now mastered, but which plagued them in their early years of teaching (or in a new assignment to middle school). The aim has been to derive those aspects of work that most deserve attention in programs of teacher education.

The major emerging themes in teachers' responses have been these:

> The most crucial, important parts of teachers' work are also the most complex, difficult and demanding.
>
> Teachers stress the importance of understanding the cognitive and social development of the middle school child, and being flexible and innovative in finding a variety of instructional strategies to meet various levels of development. Nineteen of twenty-four teachers (79%) spoke of the challenge presented by the range and diversity of developmental characteristics and the corresponding need for technical and social skill, flexibility, tolerance and humor. They find it difficult to strike an appropriate balance between developing independence and establishing appropriate limits. They find it difficult to locate or develop materials that are appropriate and challenging for students at different levels of mastery.
>
> Teachers underscored the importance of subject area competence, adding that teachers should be able to state a rationale for why students should learn particular concepts or skills. Eleven of the twenty-four teachers (46%) listed curriculum and instructional demands among the most crucial and complex of those they encountered. They found it difficult to locate or develop a range of materials adequate for the range of cognitive abilities, and to determine appropriate pace for the introduction of new concepts or skills. Planning lessons with sufficient meaning and direction, while still preserving "flexibility," proves difficult; at least one teacher complained that it is not always easy to tell whether students are "on task."

FIGURE 2: EMERGING EMPHASES IN INTERVIEWS WITH MIDDLE SCHOOL TEACHERS AND ADMINISTRATORS

ROUND ONE INTERVIEWS	ROUND TWO INTERVIEWS
Nature of formal preparation for present assignment Characterization of helpful coursework Useful aspects of field experience Descriptions of additional preparation or assistance Influential persons, events, situations, experiences	Describe one or two experiences that were most helpful for present assignment (probe)
Difficult or complex aspects of your work with middle school students	Most difficult or complex aspects of work with middle school students Most difficult skills to master when you started
Difficult or complex aspects with one another as colleagues	Most difficult aspect of "cooperative" or team work with colleagues
How new ideas come to be selected and incorporated in your work Influence, if any, of research on your practice.	In last two years, idea put into practice for the first time. Usefulness of research to you in your work.
Advice on preservice program for middle school teachers Advice on a district or building program of professional development	Advice on design of a program to prepare people to teach in middle schools (preservice and/or inservice)

> Teachers stressed the ability to plan lessons, and to select specific activities that will serve long range goals, or multiple goals at once. They believed it was important to be able to convert a district curriculum guide into a year-long plan for a specific class. One-third of the teachers proposed that curriculum and lesson planning be given greater attention in programs of preservice education.

> Teachers found classroom management and organizational skills indispensable. Six of the twenty-four teachers (25%) report that classroom management and organization continue to present difficulties, particularly in the face of their belief that this should be a time of greater independence and responsibility for students. The proper balance between "control" and "independence," flexibility and structure, appears difficult to judge.

Asked about skills they believe they have mastered, but which were difficult to learn at first, teachers mention these three areas:

> Getting comfortable enough with students to talk with them; establishing discipline and order, without getting emotionally involved.

> Developing flexibility in teaching strategies so that more students can understand the curriculum content.

> Developing time management and organizational skills so that the paperwork gets done.

Teachers' answers were thoughtful, and their examples just detailed enough to reveal how thorny the problems are (particularly for novice teachers). The majority of teachers concentrated on facets of classroom and school life that are directly (if not completely) under their control: matters of curriculum, instruction, and social organization. Only three (13%) traced their main difficulties with students to problems of home or peer group influence they thought to be outside their control. We came to believe that in a longer interview, it would help to start with a set of goal statements about middle schools, and to ask the questions "What's crucial to do well?" and "What's difficult to do well?" about each goal.

Principals who have observed teachers at work in middle schools made the following observations about areas of difficulty or complexity:

> Teachers find it difficult to meet the instructional needs of students, e.g., making sure they all understand key concepts before moving on, appropriately diagnosing needs and providing appropriate materials. Several principals nominated this as an area of greatest demand; teachers

> agree with principals that this is a difficult part of their work.
>
> According to principals, teachers prefer to teach the bright, motivated students in homogeneous groups, and are discouraged by teaching heterogeneous groups, or by students who show little respect, interest or support. They are bored with teaching the same content over and over to several groups of students. (These comments seem to reflect less of the teachers' struggles with students than principals' struggles with teachers.)
>
> Teachers are uncertain how (or unwilling to) deal with problems, like peer influence, over which they believe they have no control.

Overall, teachers were more likely than principals to highlight the social developmental aspects of work with early adolescents. Principals were more likely to highlight instructional accomplishments or failures.

Asked to judge the knowledge and skills with which beginning teachers should be equipped, the teachers interviewed agreed on the following:

> Regardless of content, professional preparation should teach to the level of application, equipping novice teachers to apply ideas to curriculum, lesson planning and the conduct of a classroom. Teachers value the opportunity to learn from and with other teachers. Altogether, sixteen of the twenty-four teachers (67%) argued for teacher education that integrated ideas with practice and that arranged for teachers to teach one another; only three (13%), however, explicitly mentioned incorporating research findings or practices.
>
> A grasp of students' developmental characteristics ranked high on teachers' lists of substantive knowledge needed by teachers in middle schools. Ten of twenty-four teachers (42%) nominated early adolescent development as an emphasis for formal programs of training.
>
> All teachers assumed a solid basis in one or more content areas. Nine teachers (38%) proposed that content preparation be designed to insure that teachers could organize what they know for purposes of teaching others (e.g., by stating rationales, designing curriculum sequences and objectives, planning specific lessons, designing materials, testing progress, being "flexible" in instruction).
>
> Classroom management and classroom organization skills were emphasized by fourteen teachers (58%), with the relevant skills ranging from maintaining order to preparing students to "work together," to teaching greater independence and

self-discipline. (Only six teachers, or 25%, talked in a narrow fashion about classroom discipline.)

Implications for Teacher Education

If middle school "philosophy" is a persuasive set of ideas, reasonably well supported by research, it would appear that we have a basis on which to organize programs of preservice and inservice teacher education. In 1978, at a time when at least 15 states offered special credentials in middle school, Brogdon (1978) conducted a survey of teachers, administrators and counselors in Alabama. The following set of recommended preparation competencies was derived from their responses:

Understanding socio-emotional development

Teaching communication skills

Recognizing individual learning levels and designing a teaching approach accordingly

Understanding intellectual development stages

Classroom management

Interdisciplinary team teaching

Physical development stages

Counseling

Teaching problem-solving abilities

Teaching self-evaluation

Providing new learning opportunities

Recognizing appropriate teaching resources in the middle school

Teaching small groups of students

Presenting alternate value systems and developing an individual value system

Offering opportunities and guidance for working in groups

Developing leadership abilities

Using multi-media approaches to instruction

Developing and implementing behavioral objectives in planning the curriculum

Walter and Fanslow (1980), propose this somewhat different list derived from recommended middle school practices and confirmed by a survey of 135 middle schools:

Relating middle school philosophy to curricular and instructional materials

Teaching according to the philosophy and goals of middle schools

Requiring students to accept responsibility for their own behavior

Taking into account the transescents' socio-emotional characteristics when planning instruction

Contributing to the development of positive self-image through successful experiences

Taking into account transescents' physical characteristics when planning instruction

Helping transescents accomplish developmental tasks

Offering varied pace and type of classroom activities

Providing new resources for the classroom

Cooperating in planning and revising curriculum

Building on the students' skills learned in elementary school

Using varied and numerous activities in the classroom

Helping students develop higher order thinking abilities through the Socratic method

The struggle to work from theory, research and practice toward guidelines for teacher education is not easily advanced by such lists. The Walter and Fanslow inventory is made more powerful than the Brogdon list in part by the explicit tie to underlying assumptions and principles (e.g., that middle schools should contribute to higher order thinking skills). Still, we are left wondering what is meant by "relating middle school philosophy to curricular and instructional materials." Molitor and Dentler (1982) report that curriculum integration and interdisciplinary planning were rare among the twelve schools they studied. Even with formal team organization and scheduled time, "most of them simply did not know how to do it and had no one to tell them" (pp. 16-17).

Proceeding in part from philosophical statements of middle schools' desirable characteristics and in part from observed practice in "successful" middle schools, we might generate questions of the following sort as a point of departure:

> If middle school teachers should be prepared not only to teach the basic academic skills, but also to foster independence, leadership, responsibility, and the like, what should they know and be able to do? What does that mean for designing an approach to classroom management? Curriculum units, materials, tests? Lesson plans?

As an exercise, we have drawn a set of guideline practices from the Middle Grades Assessment Program (Dorman, 1981), supplemented in part by others' summaries of proposed middle school characteristics. These serve as a recommended standard against which to infer knowledge and skills required by competent teachers in middle schools.

The exercise is intended (1) to reveal the range of probable skills required by middle school teaching, and (2) as the first step in establishing a method for unraveling the teacher preparation requirements implicit in effective schools/effective teaching arguments. A set of recommended characteristics and practices (not exhaustive, but broadly illustrative) and the inferred knowledge and skills upon which they rest are summarized in Figure 3, pages 32-39.

We have made no systematic effort at this stage to analyze the relative levels of complexity in specific recommended practices or proposed skills, but we do argue that the range appears to be substantial. Two examples will serve to illustrate the problem.

Example 1: In judging the instructional quality of a middle school, the Assessment Program asks observers to judge students' ability to describe objectives, the relationship between objectives and activities, and the relationship between classroom activity and life outside the classroom. There is some evidence that students' achievement and sense of competence will be more solidly assured when they know and can state what they are expected to learn, how their assignments contribute to their learning, and why their learning is meaningful (Weyand, 1983).

Quite apart from the fact that such an exercise calls for a degree of abstract reasoning that may--if the cognitive theorists are correct--be beyond the capabilities of many students, these relationships appear to be difficult for teachers to achieve. Placed in a list with items of school and classroom practices, the complexity of these particular practices may be temporarily masked. We suspect, based on staff development research (Little, 1981) and on anecdotal reports from persons who assist teachers with precisely these practices, that to do them well is a major accomplishment of planning and delivery. A common difficulty, it appears, is insuring a sensible match between objectives, classroom exercises and homework assignments.

The Assessment Program item can readily be defended on the basis of research: these are practices that produce favorable effects and that lend themselves to training and evaluation. Nonetheless, to include the item in a long list masks its complexities. In asking students to assess these connections between intended learning and classroom (or life) experience, observers risk the possibilities that (1) students will not be able to describe the intended relationships, even when teachers are working hard to establish them, (2) observers will be unable to detect patterns of the three component practices (clear objective, objective-activity match, and evidence of meaning, relevance or purpose) as they are employed by teachers and will give inappropriate praise or criticism, and (3) findings will be too general to lend themselves to a follow-up program of training or support.

Example 2: Middle school programs are assessed for their effort to promote high participation in classroom activities and in a range of exploratory and special offerings. Students' sense of "belonging" and their chances to be rewarded for their contributions rest in part on such opportunities for high participation. In practice, achieving high participation may be compromised in one of several ways. First, teachers may believe they are getting higher rates of active participation than are measured. In one study, a teacher reported to a classroom observer that he enjoyed his third period class because students were so "active"; he had spent virtually the entire class in a one-to-one conversation with a single student (SSEC/CAR, 1983). Second, routines for insuring widespread participation in heterogeneous groups (e.g., by calling on non-volunteers) may fly in the face of teachers' beliefs about "saving from embarrassment" those students who are less skilled and less self-confident; "high participation" requires that these teachers reconcile the two competing values of high involvement and individual security (SSEC/CAR, 1981). And finally, high participation runs a risk to classroom control; middle school or junior high teachers in particular may discourage novices from using high participation techniques because the class becomes too "chaotic," and because students at this age "can't handle it."

These examples suggest that the use of selected practices rests in part on technical knowledge and skill, in part on matters of value and belief, and in part on the accepted structure of opportunities and rewards at the building level. To complete the exercise begun in Figure 3 will require systematic attention to each of these dimensions and some inquiry into the probable contributions of preservice (beginning) and inservice (continuing) teacher education.

Conclusions and Possibilities

Theory and research provide a degree of guidance for programs of training and support, and reveal recurrent issues that deserve further inquiry.

Underlying theoretical assumptions about effective teaching, effective schools and the peculiar problems of teaching early adolescents offer guidance for research and practice. These assumptions require attention to the ways in which teachers are prepared to achieve multiple outcomes, i.e., students' academic, social and affective competence. In particular, they underscore the problems of "diversity" and "transition" in middle school teaching. Specific focus seems warranted on: teachers' ability to develop students' higher order thinking skills; teachers' ability to influence students' social development (and particularly peer relationships); and teachers' ability to assess and plan for diversity in entry characteristics and learning pace.

The same set of theoretical assumptions broadens the focus of teacher preparation to encompass not only subject area competence and the technical skill required to conduct quality instruction, but also to pursue questions of teachers' beliefs about teaching and learning, their skill in affecting social and affective outcomes, and their ability to analyze and act in a range of specific contexts. Program issues revolve around the balance of technical knowledge and skill (content), professional skills of inquiry and continuous improvement, and professional beliefs about the role of the teacher.

The recurrent observation that middle school practice does not match middle school philosophy stands as a reminder that compelling ideas are also complex in practice. They often require repeated trials to "get it right" and require the collective effort of entire teams, departments, informal groups or whole faculties to "keep it going." Decisions about whether to incorporate particular practices or to emphasize particular outcomes frequently require decisions--at the school or classroom level--about an order of priorities. Several issues are implicit here. The first is the nature of preparation for novice and experienced teachers (typically seen as the division of labor between preservice and inservice education). It appears that notions of curriculum sequence and instructional pace may be as crucial for professional development as for classroom instruction. Second, the complexity of teaching and learning may require a level of detail and analysis that is not typically represented in teachers' language about curriculum, instruction or social organization; professional development might be examined for the contribution it makes to a "shared technical language" (Lortie, 1975). And third, steady improvement--or movement toward accomplishing good ideas in practice--is likely to require an incremental development of technical skill and professional agreement ("the way we do things here"); questions of professional socialization, and perspectives on work as colleagues, are relevant.

Figure 3: The Teacher Preparation Requirements Implicit in Recommended Middle School Practices*

RECOMMENDED CHARACTERISTICS AND PRACTICES IN SCHOOLS AND CLASSROOMS	INFERRED KNOWLEDGE AND SKILLS
ACADEMIC EFFECTIVENESS	
1. Principal acts as instructional leader by doing regular classroom observation and feedback and being a resource on classroom instruction.	Knowledge of curriculum and instruction. Skills for observing and being observed, discussing classroom performance based on observation. Skill in organizing school so teachers can be a resource to one another. Ability to help build shared knowledge and shared language for describing, analyzing and improving teaching.
2. Staff is open to change, experiments with new approaches.	Skills in planning and implementing new approaches in the classroom. Working with others on implementation. Skills for introducing new ideas to others, winning support to try something in practice. Skill in evaluating what works and why.
3. Staff development program includes study of adolescent development; adolescent development and curriculum development are clearly related.	Skills for integrating principles of adolescent development with principles of curriculum. Ability to articulate characteristics of adolescent development in terms precise enough to make a difference to curriculum and instruction. Ability to differentiate competing viewpoints and their implications.
4. Adequate degree of structure is provided for students.	Skill in planning, teaching and maintaining the classroom management routines.
5. Students from different SES backgrounds progress at similar rates.	Skill in teaching to heterogeneous groups, or appropriately to students of varied backgrounds. Skill in establishing "meaning" in lessons for students of varied backgrounds. Skill in diagnosis and testing. Skill in collecting and analyzing disaggregated achievement data.

* Practices were drawn primarily from Gayle Dorman, the Middle Grades Assessment Program, User's Guide, Center for Early Adolescence, 1981.

RECOMMENDED CHARACTERISTICS AND PRACTICES IN SCHOOLS AND CLASSROOMS	INFERRED KNOWLEDGE AND SKILLS
6. Teachers believe all students can learn.	Skills in conveying high expectations matched by high support. Skill in pacing and sequencing of curriculum materials. Ability to design range of remediation and extension activities. Ability to give feedback specific to performance. Awareness of patterns of praise/criticism and classroom participation. Skill in establishing appropriate tasks.
7. Generally accepted school philosophy.	Ability to state what the school stands for and how the school philosophy/goals are evident in practice. Ability to design classroom procedures that clearly contribute to school goals.
DIVERSITY	
1. Schedule is flexible.	Skill in organizing time, deciding criteria on which to alter allocations of time, developing ways of monitoring progress and pace.
2. Curriculum balance among basic skills, exploratory activities and other activities.	Skill in labeling intended outcomes, designing curriculum that is integrated in its goals and activities, teaching in range of subjects and modes.
3. Interdisciplinary instruction and curriculum.	Skill in locating interdisciplinary concepts and skills, planning curriculum around them, planning appropriate activities and evaluations, talking in the language of other subject areas, etc. Willingness to compromise on areas of emphasis in order to arrive at agreement on shared goals.
4. Shared planning time for teachers of the same students.	Skill in shared planning. Agreement that shared objectives, etc. are important. Willingness to share files of materials and activities. Mechanism for reviewing progress of students collectively.

RECOMMENDED CHARACTERISTICS AND PRACTICES IN SCHOOLS AND CLASSROOMS	INFERRED KNOWLEDGE AND SKILLS
5. Classes include opportunities for experiential activity and manipulation of materials and objects.	Skill in designing lessons that include "hands-on" activities to introduce skills and concepts. Skill in managing multiple activities.
6. Use of wide variety of teaching methods and learning materials.	Ability to design, select, and integrate materials that supplement existing texts. Skill in judging the appropriate use of particular methods and materials under specific circumstances. Skill in judging the adequacy of teachers' guides and supplementing in ways that will help achieve intended goals.

SELF-EXPLORATION

1. Vocational and self-sufficiency skills introduced in the regular curriculum. Art, music and drama part of regular curriculum. Physical and health education.	In small enrollment schools without specialists, this may require teachers to teach in multiple subject areas. Skill in interdisciplinary planning.
2. Students are encouraged to question, use imagination and think for themselves.	Skill in teaching skills of independent work. Ability to organize opportunities for imagination and independence. Ability to find ways throughout the curriculum and school program for play of imagination and independence.
3. Comprehensive program which focuses on adolescent development and sexuality.	Skills in encouraging use of appropriate vocabulary without embarrassment, leading discussions during which students are open about concerns and supportive of each other, maintaining appropriate confidentiality, and appropriate use of referral.

PARTICIPATION

1. Established mechanisms for staff and student participation in decisionmaking.	Social skills training for students requires planning and preparation by teachers, and skill in integrating social skill training with regular curriculum. Skill in locating opportunities in the school program for students to participate meaningfully.

RECOMMENDED CHARACTERISTICS AND PRACTICES IN SCHOOLS AND CLASSROOMS	INFERRED KNOWLEDGE AND SKILLS
2. Meaningful involvement of parents.	Skill in talking to parents about students' progress or behavior, designing ways for them to participate knowledgeably and meaningfully.
3. Use of the community as a resource.	Skills in locating, selecting and planning for appropriate use of visitors in the classroom. Skill in making appropriate instructional use of field trips. Skill in designing community service, internships, special projects so they contribute in demonstrable ways to student learning and are tied clearly to school aims.
4. Widespread involvement in school program evaluation.	Skill in defining what to look at, and why, how to measure it, how to define and collect and weigh good evidence, how to move from discoveries to explanations or interpretations, how to move from interpretations to action.
5. Students help develop the topics and content of exploratory classes and social interest activities.	Skill in teaching students how to choose, how to design activities, how to participate in developing the idea. Skill in acting as facilitator rather than instructor.
6. Clubs and activities are open to all and have a high level of participation. Other opportunities for participation and contribution (e.g., contributions to the curriculum through materials construction, contributions to the community through community service projects.)	Skill in generating high levels of student participation. Ability to teach social skills that promote high participation, mutual concern and respect among students. Ability to design and implement community service programs that have community, parent and school support; ability to connect community services activities to what is learned in school. Ability to design activities that give students practice in "responsibility" and that allow students to make real and valued contributions.

RECOMMENDED CHARACTERISTICS AND PRACTICES IN SCHOOLS AND CLASSROOMS	INFERRED KNOWLEDGE AND SKILLS
SOCIAL INTERACTION	
1. School actively encourages improved race (cross-group) relations and understanding.	Skill in analyzing situations for their prospects to build or erode cross-group relations (and a perspective that would lead one to do that in the first place). Ability to design structures (e.g., for extracurricular activities) and classroom instruction to promote interaction. Specifically, skill in designing and using structured cooperative learning, teaching the necessary social skills, designing tasks that require interdependence, designing reward systems that reward cooperative work. Ability to locate or design appropriate materials, review existing materials. Ability to handle instances of classroom conflicts.
2. Guidance is a shared responsibility.	Knowledge of developmental characteristics of early adolescents. Skill in counseling, gearing interactions and discussions to self-understanding and personal development. Skill in professional referral.
3. Teacher encourages and organizes for student to student interaction; encourages student to ask questions of one another.	Skill in techniques of active participation. Skill in organizing cooperative team learning which demands shared responsibility and shared reward, ability to teach leadership and other interaction skills.
4. Teacher moves around the room interacting with students.	Ability to work or talk with individuals and small groups without losing order among the whole class. Skill in judging when and how to display humor and warmth (Do you smile before Christmas?). Ability to head off potential disruptions before they escalate. Ability to "monitor" for several things at once, e.g., progress on a specific task and progress in working independently. Ability to balance "businesslike" and "warm" feeling tone.

RECOMMENDED CHARACTERISTICS AND PRACTICES IN SCHOOLS AND CLASSROOMS	INFERRED KNOWLEDGE AND SKILLS
5. Varied seating arrangements.	Skill in understanding the instructional and social relevance of various seating arrangements, how to plan effectively for use of each arrangement, how to prepare students to do well in each arrangement.
COMPETENCE AND ACHIEVEMENT	
1. Teachers use frequent checking for understanding or (formative) testing to diagnose strengths and weaknesses.	Skill in designing checks for understanding or formative tests that can be used quickly, give accurate readings of understanding, get at all students, be appropriately tied to the intended skill or concept, and that allow teacher to detect patterns of errors or misunderstanding. Ability to monitor and assist individual and group work without getting "bogged down."
2. Teaching of reading skills is integrated into the curriculum.	Skill in using reading level diagnoses to assess curriculum materials. Ability to do curriculum planning targeted to students' reading level. Ability to plan lessons that contribute to reading skill and comprehension. Ability to organize classroom activities, assignments and tests to account for and strengthen reading skills. Ability to teach study skills and comprehension skills appropriate to particular curriculum areas.
3. Make help available to students with special learning needs without segregating them for the whole school day.	Skills in diagnosis of particular learning difficulties. On a more ordinary basis, ability to detect what skills or concepts are most difficult for students. Skill in designing alternative instructional approaches, materials, exercises, tests.
4. Student grouping is based on student productivity, ability, achievement, maturity and interests. Groups are short-term and flexible, with students being reassessed and regrouped frequently.	Skills in diagnosis, and in designing and conducting frequent criterion-referenced pre- and post-tests. Skill in deciding student grouping and placement, monitoring assignments and progress. In some instances, agreement to do diagnosis and regrouping on a set schedule and to use the same testing across a department.

RECOMMENDED CHARACTERISTICS AND PRACTICES IN SCHOOLS AND CLASSROOMS	INFERRED KNOWLEDGE AND SKILLS
5. Grade reports are appropriate to the skills being taught and are meaningful to students and parents; reports include meaningful narrative comments.	Ability to select meaningful points of emphasis. Ability to give specific feedback tied to performance. Ability to describe learning in terms meaningful to students and parents. Ability to reduce anxiety about grades e.g., by making the path to good grades clear and possible, creating opportunities for students to evaluate their own work, including students in parent-student-teacher conferences. Ability to make evaluative judgments that support continuous progress.
6. All students have a chance for success at something.	Skill in designing a range of opportunities for students to demonstrate competence. Skill in pacing instruction in basic skills so that all students have a chance to show progress on those skills to which social status and future opportunities are most closely tied.
7. Teacher praises frequently (or, maintains proper balance of praise and criticism), concentrating on feedback tied to specific performance; praise is widely distributed.	Skill in knowing when to use appropriate praise, how to keep it from "smothering learning," how to make specific feedback without unnecessarily slowing pace, etc.
8. Teacher's attention is evenly distributed.	Skill in deciding approaches to "turns", skill in "scanning" whole group even while assisting single students. Skill in managing several groups or activities at once.
9. Teacher makes references to what has been learned previously and to what is going on in other classes.	Knowledge of learning transfer and concept integration. Skill in planning for periodic review and tracing the connections between skills and concepts. Opportunity to learn what is going on in other classes in a fashion that lends itself to more than casual "reference."
10. Teacher does not use grades to motivate or control.	Knowledge of motivation theory and technique.

RECOMMENDED CHARACTERISTICS AND PRACTICES IN SCHOOLS AND CLASSROOMS	INFERRED KNOWLEDGE AND SKILLS
11. Task instructions are clear and concise; teacher clarifies and adjusts at signs of confusion.	Skill in planning and using directions of appropriate clarity, timing, complexity.
12. Teacher makes quick, smooth transitions.	Perspective on Academic Learning Time. Skill in planning and doing transitions, e.g., organizing for collecting and distributing materials. Skill in developing routines for changing activities so transition patterns are consistent.
13. Students understand the objectives of lessons and activities and make connections between objectives, activities and life outside the classroom.	Ability to communicate objectives to students. Ability to establish "meaning", relevance, purpose to students. Skill in insuring clear connections between activities and objectives. Skill in designing learning activities that capitalize on experiences of students in out-of-school situations.
STRUCTURE AND LIMITS	
1. Collective decisions, agreements about discipline.	Teachers must be willing and able to act on a set of agreements about order and discipline in the school. Skill in judging when to act and when not to; ability to maintain order without disrupting instruction. Ability to maintain consistency over time.
2. School and classroom rules are stated clearly, posted, backed by reasons, and stated positively.	Skill in working with students to determine appropriate rules. Skill in deciding what rules are really important. Skill in maintaining consistency in enforcement of rules over time.
SAFETY	
1. Staff and students do not fear for their physical or emotional safety.	Skill in assessing, preventing or easing situations that pose a risk. Skill in maintaining consistent classroom and school routines.

THE WORK ENVIRONMENT FOR TEACHERS AS COLLEAGUES

Introduction

In the wake of the recent resurgence of educational reform, schools are pressed to become institutions of learning in the broadest sense. Shulman (1983) proposes that we judge schools by their ability to be educative for teachers as well as for students. Dow (1982) declares that pupils' learning and teachers' learning are central concerns of schools. Gideonse (1983) advocates inquiry as a fundamental perspective and activity at all levels in public education, with profound implications for the organization of teachers' professional work life. Together, the emphasis on reflective practice (Sykes, 1983) and on strong lateral peer relations among teachers (Lortie, 1975; Little, 1982) raise questions about the nature of professional socialization and professional development; such questions compel attention to the design of preparation for prospective teachers and to the way in which work in schools is conducive (or not) to continued professional development.

Do middle schools cultivate these collective habits of reflection and invention for teachers and for students? If so, what are the implications for teacher education?

Discoveries that effective workplace organization contributes to excellence in schools (as in large corporations) call attention to certain aspects of professional work that are highlighted in middle school "philosophy" and to which teacher education might attend. At issue are professional perspectives, skills and habits (e.g., those of inquiry) that enable teachers to be properly thoughtful, rigorous, and imaginative in their treatment of subject matter and in their exercise of pedagogical judgment. Further, the relatively recent emergence of middle schools and the corresponding change in perspective, curriculum, materials, classroom practices, and role relationships require attention to schools' ability to manage rapid change and the related capacity of teacher education to adapt or to help others adapt.

The aim here is to apply recent discoveries about schools as workplaces to the study of middle schools as work environments for teachers and administrators, and to select those features of the middle school workplace that 1) appear most consequential for achieving instructional and other intended student outcomes, 2) contribute most to expanding the technical competence of teachers and the social rewards of teaching, and 3) lend themselves to organized programs for training and support.

Contributions of The Research

Proposals for "ideal" middle school organization anticipate a range of cooperative and interdependent relations among teachers: interdisciplinary teams, team teaching, flexible scheduling, flexible grouping, teacher involvement in student placement decisions, problem-solving faculty groups, a core curriculum requiring shared planning and preparation, house plans and expanded teacher roles (e.g., teacher advisement) (ERS, 1983; Molitor and Dentler, 1982).

Such proposals receive support from other sources. In his study of twelve urban secondary schools, Michael Rutter and his colleagues (1979) list "shared planning among teachers" among the characteristics that distinguish the more successful from less successful schools. Collaborative planning and preparation is one of four collegial practices that were found to distinguish more successful schools in Little's (1981) study of professional development. Implementation of new ideas and practices appears to rest in part on teacher participation in planning and in revisions based on classroom trials (Berman and McLaughlin, 1978; Fullan, 1982). The more complex the innovation, the more it appears to drive implementors into collaboration with one another (Cohen, 1981).

Nonetheless, there is substantial evidence that for most teachers, most of the time, in most schools, work is not organized in this fashion. Dan Lortie (1975), in his landmark description of the teaching career and teachers' work, observes that the more typical "cellular" organization of the school "is not organized to promote inquiry or to build the intellectual capital of the occupation" (p. 56). Sykes (1983) reports that there is little to encourage reflection-in-action either in professional life or in professional preparation. Where teaming and other forms of collaborative work exist, they tend to be "permissive rather than mandatory" (Lortie, 1975). According to Cohen's (1981) review of research on teaming, membership in teams is typically voluntary. "Evidently, nobody makes teachers work interdependently if they don't want to" (p. 172). The language in one recent description of middle school teaming confirms the permissive or voluntary nature of most cooperative work: "Middle schools should allow team planning..." and "The team teaching approach emphasizes the strengths of individual teachers, assists in grouping students and allows teachers to plan together" (ERS, 1983:89).

One might argue, then, that neither the early socialization of individual teachers nor the patterned and pervasive organization of the workplace in most schools is organized to foster collegial, reflective work that could advance the field and provide opportunity and reward for talented individuals. To the extent that middle schools advocate "cooperative" work among teachers, and to the degree that they organize opportunities and rewards for cooperation, they are exceptions to a powerful tradition.

Yet few studies of middle schools offer an analysis of work relationships among faculty, or of the conditions that foster steady program experimentation and improvement. Molitor and Dentler (1983) devote a few brief paragraphs to the difficulty of matching aspirations to practice, but provide no descriptions of specific problems and their consequences. An exception is Joan Lipsitz' (1983) portrait of life in four exemplary middle schools, in which details of work life among teachers and administrators are embedded throughout the text and serve to ground each school's accomplishments in the fabric of day-to-day habits and arrangements.*

In all of Lipsitz' schools, there is some observable evidence of staff cooperation, some measure of shared discussion or debate over crucial ideas, and a pervasive sense of the school as a community. Most striking, according to observers, is the absence of adult isolation in these schools; teaching is not a "lonely profession."

"In order to establish the climate and goals that account for the school's effectiveness, a great deal of the school's resources, especially time and attention, are devoted to the adults in the school" (p. 166).

Teachers in the four schools assume collective responsibility for the quality of learning. These are schools with a "prevailing group norm for productivity" (Lipsitz, 1983). Teachers' commitment to improvement is strengthened by projects that challenge creativity and win fame. Teachers hold high standards for themselves and apply consequences for failure to work hard. Teachers in one highly teamed school give "calamity day" awards for teachers who consistently fail to devote a full share of thought, organization and energy to the job.

Two issues are at stake here. One is the public, shared commitment to excellent teaching and steady improvement that is reflected in the organization of opportunities and rewards for innovation, experimentation and evaluation. The second is the value placed on collaborative effort, and the organization of the school to promote teaming. Little (1981) hypothesizes that school effects on student learning will be more powerful where both a "norm of continuous improvement" and a "norm of collegiality" prevail. Collegiality in the absence of experimentation may lead to complacency with the status quo; independent experimentation in the absence of collaboration may limit teachers' persistence in trying out new, complex ideas and may weaken the impact of good ideas. If Lipsitz' four exemplars are any indication, it is likely that "successful" schools will vary (within some limits) in the way they are organized to reflect each of the two relevant norms. Across the four, there are marked differences in the nature and extent of interdependence among teachers, and in the value placed on "teaming."

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*In the seven features of middle schools recommended by Lipsitz and her colleagues at the Center for Early Adolescence, workplace organization (and specifically teaming among teachers) are not singled out for special attention. The "workplace" aspect of middle school teaching, while central to the case study descriptions, does not occupy a distinctive place in a conceptual framework aimed at explaining the influences of middle school program on student learning and development (see also Dorman, 1981).

In one school, systematically organized around teams, teachers are accorded considerable latitude to make decisions about curriculum and instruction, and work hard until they reach agreement. Internally, each team is tightly organized and distinctive in its approach; across teams there is much diversity. Rights to initiative, innovation and leadership are widely distributed; still, coherence across teams is generated by frequent interaction among a set of team leaders, in turn appointed and led by the principal.

In another school, the principal has been the main source of innovation and initiative. Observers summarize: "This staff is not a collection of strong, individualistic personalities loosely drawn together by a benign, mediating principal. It is a staff of....like-minded people, the large majority of whom adhere to a dominant principal's definitions of one of teachers arrayed as spokes of a wheel, linked to the principal-hub who is the main spokesperson for a set of guiding ideas and specific instructional practices."

In still another school, independent experimentation is prized, and has fostered some remarkable ventures in experiential learning. Teachers jealously guard their individual prerogatives for innovation. Although some teachers would like their colleagues to develop clear curriculum objectives and to agree on a common set of expectations for each grade level, others resist, stressing the value they place on diversity and claiming that they are, after all, engaged in purposeful activity. At the same time, teachers engage in frequent, lively (sometimes heated) discussion of the ideas and principles that underlie their curricular or instructional decisions. (At the time of the observers' visits, one debate was over the implications of current brain growth theories and their implications for curriculum.) The ideas and methods of teaching are to a large extent "public," open to the scrutiny and comment of others (even if not always open to others' direct influence). The faculty is characterized as thoughtful, self-critical and open to change, but individual initiative and personal preference outweigh team considerations.

Whatever their differences, each of these four schools is characterized by professional work relations that underscore a commitment to continuous improvement of curriculum and instruction and that, to some extent or another, engage teachers and administrators in shared work toward that end. Such work relations rest in part, but only in part, on shared values and beliefs; they persist because these schools have been organized to make them an integral part of the work of teaching.

Organizing for "Cooperative" Work Among Teachers

Cooperative work among teachers, on a scale large enough to make a difference to a school program, requires organization that is at once adequate to support collaboration and to allow shared work to compete with other demands on teachers' time and energy. Two distinct but related perspectives provide guidance. By one perspective, we are concerned with the extent to which innovation and/or cooperative work is a patterned, integral feature of life in a school--specifically, whether the organization of time, space, material, and staff responsibilities is likely to promote or limit cooperative work among teachers. By a second perspective, we focus on the internal organization of collegial task groups themselves, and ask whether teachers have the requisite views, habits, and skills to make such groups productive and rewarding.

School organization. Cooperative work among teachers, in any systematic and organized sense, is the exception rather than the rule in American schools. In the absence of specific, public, persistent encouragement to work together, backed by support and rewards for doing so, teachers are more likely to find it far easier to work independently than to seek out others.

Schools where shared work prevails have a "policy" of teamed work explicitly tied to improvement goals. Working together is "the way we do things here." In this respect, the middle schools described by Lipsitz are similar to schools described elsewhere, in which the conditions of effectiveness require deliberate and systematic cultivation (Little, 1981; Bird and Little, 1983); similarly, in a review by Cohen (1981), the presence of a clear policy in favor of teaming made it more likely that teams would persist from one year to the next. Such a policy is evident in the following ways in day-to-day work:

Public endorsements. Principals and others in positions of influence declare that they value team efforts, and go some distance toward saying what they think that means. Among Lipsitz' successful middle schools, the most heavily teamed school was one in which the principal and team leaders conveyed their own faith in the power of interdisciplinary teams to make the school better for students. In schools where teaming came lower on a principal's list of priorities, cooperative efforts were less frequent, less focused on fundamental questions of curriculum and instruction, and less binding on the decisions of individual teachers in classrooms.

Time. Common planning periods, regularly scheduled team or subject area meetings, and the judicious use of release time all supported cooperative work among teachers (Weyand, 1983; Lipsitz, 1983; Little and Bird, 1983). Even teachers in a school that prizes independent experimentation and autonomy meet together in staff breakfasts and team meetings to discuss and evaluate curriculum decisions in light of their consistency with research on early adolescence. To keep up schoolwide and subject area ties in a school organized around interdisciplinary teams, there are subject area meetings, committees and a strong emphasis on out-of-school social activities. A staff newsletter on curriculum and instruction continues teacher-teacher communication. A curriculum center is set aside for lesson preparation and for files of shared materials.

Of the available options, common planning periods (and available work space) are the most crucial; they allow teachers to work on complex problems of curriculum or instruction with the persistence required to achieve continuity and depth or to resolve disagreement.

Latitude for influence. Teachers' investment in team planning efforts appears to rest heavily on the latitude they have to make decisions in crucial areas of curriculum, materials selection, student assignments, instructional grouping, classroom activity and the like. In a school fiercely committed to a team structure, the principal negotiated with district curriculum supervisors to win his teachers the right to design and use their own curriculum units (Lipsitz, 1983). In a comparable case, a junior high school principal supported curriculum projects and "study groups" on instructional research as the vehicles for building teachers' involvement with one another and their collective attention to program improvement (Weyand, 1983).

Staff organization. School level reorganization into teams has produced increases in interaction, interdependent work relationships, collegial influence and teacher decision-making rights (Cohen 1981). Middle schools are commonly (though not always) organized into teams, houses, clusters or some other "school within a school" arrangement that expands the opportunities and reasons for interaction among teachers.

By Lipsitz' account, staff organization goes a long way toward permitting cooperative work, even though it does not require it. In some schools, teachers assigned to the same teams or houses meet in a perfunctory manner to solve routine matters of scheduling or student placement, and have little to do with one another on issues that strike closer to the heart of classroom experience. In only one of the four schools, best described as an "outlier," do teachers insist that the team structure is the one feature that best represents the school. In that school, each of eight academic teams is responsible (as a team) for the learning experiences of approximately 150 students. Each team has relative autonomy with respect to scheduling, grouping, staff assignments to content areas, and the development of distinctive curriculum units or instructional approaches. With the encouragement of the principal, and led by assigned team leaders, these academic teams take full advantage of organizational resources, using their common planning times to hammer out agreements about curriculum, instruction and the organization of students. In this case, the opportunity to work together that is afforded by the organization and the schedule is matched by felt obligation to work together that is created by the definition of teachers' professional responsibility to students. Exhibiting parallels to Slavin's (1980) requirements for successful student team learning, these teams appear to have achieved some version of "task interdependence" and "reward interdependence."

By contrast, a unified arts team in the same building has neither a small community of students to call its own (student loyalties are to academic teams), nor a compelling interest in producing a coordinated curriculum, nor daily common planning times in which to develop any version of a combined program. Teachers' experience of "teaming" has been far less rewarding (and rewarded) than that of the academic teams.

Focus. Work together requires some topic of compelling importance to work on. (Teaming for the sake of teaming appears short-lived.) The middle school emphasis on an interdisciplinary curriculum may create a situation conducive to cooperative work among teachers by posing a task that is both broad enough and complex enough to require the contributions of several participants. That is, to achieve the degree of curriculum integration on which the middle school movement prides itself may not be possible without shared work among teachers. This observation accords with Cohen's (1981) conclusion that the greater the technical complexity of the work, the more it requires and rewards the cooperative labors of a group. In addition, diverse knowledge and experience among group members may be a virtue, even while it makes communication more difficult in early stages; in one study of problem-solving, groups that combined experienced and novice nurses achieved higher quality solutions to medical problems than groups composed only of experienced nurses or novices (Cohen, 1981).

Material support. The quality and availability of reference texts and other materials, adequate copying equipment, consultants on selected problems, and other forms of material and human support appear crucial--but often underestimated--contributors to teachers' ability and willingness to work successfully together. Although this dimension has not been emphasized in descriptions of middle school life, it has been poignantly described in at least one recent study of junior and senior high schools (Bird and Little, 1983). In this study, teachers in one junior high school and one high school regard themselves as well-supported (as entire faculties) in part because they have large, multipurpose copying machines staffed by aides. In these schools, teachers have more time and more inclination to spend planning and meeting with one another. In two high schools, where teachers must compete with one another for time at small and fragile copiers, entire planning periods may be spent standing in line. Time and inclination for group work are in short supply.

At its strongest--most durable, most rigorously connected to problems of student learning, most commanding of teachers' energies and loyalties--cooperative work is a matter of school policy. Team efforts that receive public endorsements and accolades, are well supported by the allocation of time, space, materials and staff assignments, and are demonstrably tied to the school's ability to educate the young. Together, these aspects of policy may lend stability and continuity to a phenomenon that, in many schools, has proved highly unstable and transitory.*

Successful work groups. Constructing teams that take pride in their accomplishments, create achievements worth celebrating and last through time (and through tough times) is no small challenge. Most teachers can imagine an "ideal" team; most can also tell tales of groups gone awry, situations in which they have given more than they have received, or have been bored, frustrated, overburdened, insulted or insulting. School level policy can help to establish a system of teaming as an integral part of teachers' professional work life. What remains is to examine how each single instance of teaming can be strengthened. Based in part on descriptions of middle school work, in part on descriptions of the school as a workplace, and in part on focused studies of teacher teaming, we can propose a set of conditions. They include: tasks of adequate complexity to require and reward participation; sufficient knowledge, skill and other resources; team leadership adequate to insure continuity, direction and full participation; and attention to professional relations that are properly reciprocal (i.e., that build "trust").

Task complexity and technical support. Teams are more likely to form when the work at hand is complex enough to make two (or six) heads better than one, and to make it probable that the reflected glory of the team will outshine the success that each member could expect from working alone. According to Cohen (1981), complex tasks generate uncertainty, for which lateral relations between teachers can serve as a source of problem-solving, information processing, and coordination (p. 175). More differentiated curriculum materials and more diverse student grouping are examples of increased complexity: "...[I]ncreased staff interdependence provides one solution to the problem of complex technology in many classrooms" (p. 178).

In the middle schools, a main device for achieving the promised curriculum integration is the interdisciplinary thematic unit. Judging by the descriptions offered by Dow (1982), constructing an interdisciplinary curriculum is a complex task, one that could reasonably be expected to promote cooperative effort among teachers. In one middle school described by Lipsitz, teachers work continuously in interdisciplinary planning teams; the team's deliberations so govern the ability of individual teachers to do their jobs that there is great pressure against staff absenteeism and equally great pressure toward energetic participation in the group. Teachers who are not contributing their full share of the ideas and the labor may receive "calamity day" awards from their peers.

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*Although teams theoretically have the prospects to reduce teacher isolation, they appear to be highly unstable and informal phenomena in schools. Interdependence is transitory; independence prevails. Highly teamed schools in one year may show little evidence of teaming in subsequent years. The principal's influence may be felt here. In one study, where teaming had markedly diminished over a two year period, teachers reported that the principal had no explicit policy on teaming. Bredo (1977) found that the existence of team policies was highly related to satisfaction with team relations.

In schools, the most complex tasks are those that come closest to the heart of teaching and learning. By participating with colleagues in discussions of curriculum and instruction, teachers may expand the pool of ideas from which they can draw, and may strengthen the classroom performance on which their professional reputation rests. In this respect, their collective struggle with complex problems produces mutual recognition of the magnitude of a teacher's professional tasks and improves the odds that the challenges will be successfully met.

Yet getting close to practice is also getting close to the bone. By exposing ideas about curriculum and instruction to the group, a teacher risks his or her professional standing in the eyes of peers. By confining group tasks to problems that are less complex, less central to classroom decisions, and less bound up with personal and professional competence, team members trade potential (but perhaps hard-won) gains for a measure of certainty and security.

Less complex problems simply do not require the same degree of interdependence. On the whole, middle school team planning may revolve around problems of this less complex sort. In one school described by Lipsitz, teams make decisions about student grouping, scheduling, and how to distribute responsibilities for content instruction. These are relatively low complexity, low ambiguity decisions that can be made without requiring interdependence on a daily basis. Similarly, in a school where teachers are assigned to interdisciplinary "sets," there is some joint planning at the beginning of each session and some block scheduling by one set, but there is no team teaching and little interdisciplinary planning. In the teaming studies reviewed by Cohen (1981), true instructional interdependence was rare. Teachers more typically established agreements about the organization of time, students, and materials. Teaming only rarely meant joint teaching, though in one study (Van de Ven, 1976), 28% of the surveyed teachers reported some joint teaching.

Professional role relations. Cooperative work places unfamiliar and pressing demands on teachers' relationships with one another. In a profession in which teachers work in "cellular" classrooms, out of the sound and sight of others, and in which the norm of "not interfering" with another teacher's views or practices is powerful, teaming represents a radical departure from the usual. Teams succeed, it appears, by virtue of competent leadership and the emergence of "trust" and "respect" among members.

Establishing effective team leadership and cultivating reciprocity and respect among team members turn out to be complex tasks in their own right. Most school-based teams, unlike work groups in industry, tend to be equal-status groups in which leadership roles are rarely assigned and in which professional deference is simply assumed ("you just have to be a decent person"). The "equal-status" assumption is compelling; even when principals speak of team leaders, teachers may deny their existence (Cohen, 1981). Other studies have demonstrated that there are almost no mechanisms by which teachers can emerge as leaders for purposes of leading work on teaching, even when they have been acknowledged as exemplary classroom teachers (Bird and Little, 1983).* When group leaders emerge informally, as a consequence of evolving social dynamics among the members, some participants may complain of undue "domination" and may curtail their investment in the team's work. (One measure of the success of group leaders, ironically, is their ability to foster widespread participation, sense of belonging and sense of influence among the participants.)

Whether in equal-status groups or not, teachers rely heavily on "trust." Team members are expected to display respectful behavior toward one another in order to preserve their personal and professional integrity while they thrash out agreements on tangled issues closely bound up with their beliefs and practices. In effect, teachers count on their collective ability to do good work on the problems of teaching without doing damage to one another as teachers.

Recent portraits of collegial relations among teachers have shed some light on the mysteries of trust (Bird and Little, 1983). Lacking the intimacy that confirms trust among family members or long-term friends, team members must rely on other evidence that they do not intend harm to one another. Among the guarantors of trust are these:

> Shared language for describing and analyzing the problems of curriculum and instruction;
>
> Predictability in group dealings, including rules for group process and especially for airing and resolving disagreements;
>
> Separating talk about practices and their consequences from talk about people and their competence, and concentrating on the former;

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*Beliefs, values and norms governing teachers' professional work relationships will require particular scrutiny as states and districts move to initiate "career ladders" or "master teacher" programs by which differential status among teachers is harnessed to demands for school improvement and for expanding the opportunities and rewards associated with the teaching career.

Sharing equally in the obligations to work hard, to credit one another's contributions and to risk looking ignorant, clumsy or foolish.

Where conditions of leadership and trust are satisfied, teams may push to extraordinary limits; where leadership is weak or absent and relationships are strained, teams are likely to reduce their investments of time and energy, and to limit communication and interdependence to issues that can be resolved more easily, e.g., agreements on scheduling rather than curriculum goals.

The Role of the Principal in Supporting Cooperative Work Among Teachers

A commonplace in the educational research literature is the view that the principal plays a key role in shaping values, establishing direction, and giving life and meaning to priorities (Little, 1982; Dwyer et al., 1983; and others). In Lipsitz' operations, each of the four exemplary middle schools has (or has had) a principal with a driving vision, who imbues decisions and practices with meaning and who places powerful emphasis on why things are done.

In practice, such principals appear to achieve their effect by accumulating a store of knowledge about curriculum and instruction, by orchestrating small decisions to achieve a large, cumulative effect, organizing a group with the capacity and resources for program improvement, and by acting, when the occasion demands it, with courage and persistence. Some mixture of intellectual capacity, substantive knowledge, technical skill, and moral character is described here.

The guiding ideas on which middle schools rest require that principals take initiative with respect to how and whether teachers work with one another. "Middle school philosophy" places considerable emphasis on cooperative work among teachers, on the grounds that such work will contribute to the kind of curriculum, instruction and social climate most conducive to learning for early adolescents. Among the values and priorities expressed by middle school principals, then, one would expect to find the value in cooperative work and a priority for shared planning and preparation and the organization of interdisciplinary teams.

Four types of instructional leadership initiative proposed by Little (1981) serve to organize Lipsitz' descriptions of the role of middle school principals.

"Say it": announce expectations for cooperative work. Principals publicly stress the importance of cooperative work on curriculum, instruction and other aspects of school program. In at least one of the four schools, teachers describe the emphasis on teaming as the single most definitive feature of the school, and one in which the principal invests considerable words as well as deeds.

"Do it": enact expectations in practice. Principals "practice what they preach" by "modeling" collaborative practices in their own work, by involving themselves directly in the work of teams, by staying closely in touch with team leaders, and by organizing the schedule and other resources to provide opportunities for teachers to work productively together.

Principals are credited with shaping values, establishing direction and insuring momentum; few teachers, however, believe the principal is indispensable. To a greater or lesser extent, these schools are organized to distribute leadership responsibilities, rights to initiative and decisionmaking on curriculum and instruction (e.g., through a system of team leaders appointed by the principal). By organizing opportunities for others to assume leadership roles, by carving out time for shared work, and by giving small and large rewards for others' initiative, the principals' major accomplishment is to make these schools "larger than one person."

"Reward it". Teachers are rewarded for their work as colleagues, innovators and leaders. Team leaders in one school get extra status through a system of "perks," e.g., dinner out at a good restaurant with out-of-town visitors. Smaller rewards, like an extra planning period, recognize contributions to one-time tasks.

Teachers in these schools work hard or they do not last. Principals are thought to evaluate fairly but rigorously. Excellent teachers are rewarded and assisted. Incompetent teachers have been known to resign because the pressure is too great and the rewards too few. (See also Bird and Little, 1983.)

"Defend it". Principals defend the efforts of faculty by securing district support (or, failing support, acceptance) of teacher initiated projects and by protecting teachers against unnecessary demands, distractions and interruptions. In one instance, the principal has held the district's curriculum supervisor at bay and has won permission for the teachers to implement curriculum units they have developed. In another, the principal has successfully demonstrated to parents that the "exploratory" and other "special" activities at the school also contribute to basic skill mastery, thus diffusing some of the public press toward a fully traditional academic program.

Teachers' and Administrators' Experiences in Collaborative Work

The particular challenges of working with colleagues were probed by an open-ended question addressed to the forty-four teachers and principals participating in the Laboratory's survey of middle school teaching. When combined with relevant literature, participants' responses constitute a modest first step in identifying the aspects of professional collegiality that most deserve attention in programs of training and support.

In a first round of interviews, the research team failed to make clear why the question was relevant. Our question about working with colleagues was interpreted primarily as a question about "getting along." In responding, teachers stressed unspoken rules for being considerate in the handling of rooms, materials, noise levels, and interruptions. These "golden rule" responses centered on working smoothly and comfortably near--but not necessarily with--one another. One teacher summed up, "You just have to be a decent human being."

When the same question was prefaced somewhat differently, by reminding people of the middle school emphasis on "cooperative" work among teachers, the answers became more focused on the specific dilemmas associated with group work on curriculum, instruction or discipline. Five themes, or challenges, emerged.*

Professional communication. Teachers summed up their most common and most difficult challenge as "communication," and illustrated their claims by examples that revealed both the technical and social demands placed on teachers and administrators working together as colleagues. Several teachers nominated communication skills as central prerequisites to successful group work. The general problem of "communication" had these aspects:

Vocabulary. Using examples drawn from their own recent training in "instructional skills" or their participation in special projects (e.g., reading demonstration projects), teachers showed how a shared language to describe and analyze curriculum or instruction makes it possible to talk to one another about teaching in a way that is concrete, useful, and respectful. At issue here is the ability to talk about teaching in ways that separate practices from people, that preserve personal integrity while displaying professional rigor. So, one challenge is to construct a language that is precise enough to be helpful and practical yet rich enough to capture the complexity and ambiguity of teaching and learning.

Treatment of others. One teacher reflected the views of several others when she insisted, "Teachers must be willing to treat each other with respect and be sensitive to human differences if they are going to be successful in planning together." In practice, properly respectful action may prove hard to reconcile with a commitment to specific goals (e.g., curriculum change, instructional improvement). Several teachers (seven of twenty-four) reported that disagreement or "constructive" criticism was interpreted as a personal attack. Such comments bring to mind discoveries by Cohen (1981) and others that the inability to resolve social role problems may lead participants to retreat to a less problematic version of group work (e.g., redefining their goals and tasks to eliminate areas of disagreement). This is an issue of emerging social roles and the dimensions of reciprocity shown in other research to be important contributors to collegiality (Bird and Little, 1983).

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*The word "challenges" is deliberately chosen here to reflect our view of problems as an opportunity for action. It is also an effort to get our respondents off an uncomfortable hook that the research team inadvertently created by the terms in which the question was posed. In its effort to narrow the priorities for preservice and inservice preparation, the team focused on the complex and difficult aspects of collegial work. In feedback discussions held subsequently with the respondents, teachers underscored the accomplishments associated with shared work. While working collegially presents unfamiliar challenges, they said, it promises substantial rewards as well.

Influence. Implicitly or explicitly, each of the respondents portrayed a school in which some teachers more than others are involved in team work with colleagues; some teachers more than others, too, are avid experimenters, readers, enthusiasts for change. In these schools, as in others, the most interested innovators may reap the largest number of opportunities for professional development and may reap the greatest rewards for their efforts. At a time when educational reform movements include a call for expanding opportunities and rewards for teachers, and for tying rewards more closely to performance, such a development should perhaps be celebrated. From the standpoint of school improvement, however, we are forced to examine the prospects for enhancing the general level of skill and commitment among the faculty, and for strengthening the collective capacity for improvement. One principal said that his meetings are occasionally dominated by "superstars," and "others get tired of listening to them." Such comments suggest tangled conceptual and strategic questions. Certainly principals (and interested teachers) find it easier and more rewarding to initiate new projects with kindred souls ("volunteers"). Over time, the strategy of working with the interested volunteers may confirm a pattern of differential opportunity and reward, a pattern described by Little (1981) as "creeping exclusivity." By contrast, Cohen (1981) reports that when work groups are structured to promote widespread involvement among their members, participants are more likely to believe they have influence in the group and in the school at large. Presumably, they more readily commit their knowledge, skill and enthusiasm to the work of educating students.

Belief. According to our respondents, it is not uncommon for teachers to believe they have nothing to learn from one another or nothing to teach others. One variation on this theme is the belief that teachers do not have the right to impose their knowledge or skill on others. A second variation is the belief that the obligations of teaching ("a good job") can be met without working with others. One teacher commented, "It is difficult to convince some teachers that it is important to integrate subject matter other than their own speciality into their lessons." And a third variation, solidly based in teachers' experience, is that there may be more rewards for hoarding one's ideas and materials than for sharing them. (Teachers describe "sharing" a favorite unit or classroom activity, only to find that it begins to lose its impact as teachers all over the building begin to use it.) In each of these cases, teachers underscore Lortie's (1975) observation that team work among teachers, where it exists, is permissive and voluntary rather than a necessary and obligatory part of the job of teaching.

Getting to agreement. Forging agreements on curriculum goals, materials, instructional approaches and even disciplinary standards is a challenge that stretches the limits of most teachers' time, skill, persistence, patience, and humor. Six of the twenty-four teachers and several principals cited the difficulties involved in reaching agreements that would guide action. One principal comments, "They can agree on particular problems, but have difficulty finding solutions agreeable to everyone." The recent literature characterizing effective schools highlights the contribution made by shared agreements about the way things are done and what's important. What is less visible behind such accolades is the reality that such agreements are hard-won.

Habit. Teachers' and principals' comments confirm the findings of other research that professional work life in schools is not typically organized to require or promote collegiality. One teacher comments that "[teachers] are so accustomed to working in isolation that they do not want to share." Principals report that there is some evidence of "cooperation" in their buildings, but that faculty are rarely asked to solve problems as a group. One principal observes, "Teachers are unaccustomed to working together and assessing the results." Among the many patterned, inescapable routines and expectations of work in school, habits of collegial work are noticeably absent.

Troubleshooting. Teachers and principals have a narrow repertoire of concepts and skills on which to rely to build commitment to collegial work or to resolve problems when things go wrong. One teacher complains that "Teachers don't always 'see' others' willingness to try new things and to demonstrate flexibility or openness." Teachers find it difficult to "support" colleagues whose curriculum and instructional methods are seen as inappropriate.

When things go clumsily or badly, teachers and principals are inclined to interpret the trouble in personal or psychological terms. Team members are "unwilling," "inflexible," "uncooperative." Faced with teachers' frustrations, principals may try to deal with what they conceive of as a "personality problem," failing to see possible structural interpretations tied to the task or the role expectations: "Having only a conception of personality conflict as a diagnostic tool definitely limits them in making helpful suggestions" (Cohen, 1981:187). Thus, while successful involvement in team work may expand the pool of good ideas and materials, and may build a system of mutual support among teachers, early unsuccessful experiences may lead people to retreat quickly to their old (independent) ways (see also Bird, 1984).

Conclusions

The "Nation at Risk" report of the President's Commission on Excellence, and other similar ventures, have galvanized public and professional interest in expanding the opportunities and rewards associated with the career of teaching. Middle schools, to the extent that they make deliberate, systematic efforts to cultivate cooperative work relations among teachers, are a promising vehicle for pursuing a range of issues central to teacher education, and to teaching as a profession.

The uncertain place of collegial work in middle schools (despite its place in an accepted "philosophy") highlights critical questions about the professional socialization of teachers. By seeking opportunities to participate in demonstration experiments involving universities and local schools, researchers can help to explore some conditions and consequences of teacher preparation that go beyond a concern for subject area competence and pedagogical sophistication.

Such projects would permit systematic attention to the prior socialization that prospective teachers bring to a preservice program, the perspectives they learn during their formal preparation and the views or habits that are challenged or confirmed during induction. They would require attention to the stance taken by teachers toward teaching and learning, toward processes of inquiry and professional development, and toward professional colleagues. And finally, they could be expected to contribute to theory, generate useful curriculum guidelines for preservice and inservice education, and produce materials and instrumentation for use in both research and training.

APPROACHES TO PRESERVICE AND INSERVICE EDUCATION FOR MIDDLE SCHOOL TEACHING

Introduction

As the number of middle schools has expanded to more than 12,000 (MDR, 1980, cited in Lipsitz, 1980) teachers have been recruited or reassigned from elementary schools, traditional junior high schools, or high schools. Teachers who transfer from elementary schools bring with them a "student orientation" that is admired by many middle school principals, but often lack in-depth preparation in selected subject areas. Teachers transferring from secondary schools are generally better prepared to offer a thorough treatment of curriculum content, but may be unprepared or unwilling to manage other requirements of middle school teaching, e.g., to act as an "advisor" to students.

The development of the middle school is one of several instances of an educational movement affecting a large number of teachers and administrators, stretching the limits of their knowledge, skill and confidence. (The advent of desegregation and the passage of PL 94-142 are others.) Described in this fashion, middle schools represent an opportunity to discover how teacher education adapts and helps others to adapt to changing circumstances.

As demands on local schools proliferate, programs of preservice and inservice education face a dilemma: of the many complex demands placed on public education, which ones require the involvement of formal programs of teacher preparation? Of the vast array of relevant knowledge and skills upon which teachers will draw, which deserve closest attention in programs of training and support? In students' limited exposure to preservice coursework in education--perhaps no more than 30 semester hours, of which fully half may be taken up by student teaching--much must be attempted. Prospective teachers must develop a grasp of key principles of learning and development; they must develop a capacity for making appropriate judgments about curriculum and instruction; they must show some facility for orchestrating classroom life--in particular, insuring a modicum of classroom order. Developments in the larger political and social arenas of American life have also had their effect. Prospective teachers, it appears, should be prepared to teach in and about multicultural populations, to accommodate "mainstreaming," and to integrate burgeoning computer technology in their instruction. They must be able to produce an adequate command of basic skills, while also fostering in their students a measure of self-confidence, independence, love of learning, capacity to reason intelligently, commitment to social justice and ability to work productively with others. In the competition over scarce preservice resources (semester credit hours and faculty assignments), preparation for teaching early adolescents joins a large crowd of candidates; an order of priorities is essential, but probably not easily achieved. Some observers look to district programs of staff development to "pick up the slack." Presumably, programs of district-sponsored inservice education can be tailored to match the values, policies and prevailing practices of the schools in which teachers work; these programs, however, are spread no less thinly, either in the magnitude of their human and material resources, or the range of obligations which they are asked to meet.

This, then, is the context in which one must place programs of preservice teacher preparation for middle schools. In searching the literature and in conducting telephone surveys with nine public and private teacher training institutions, two county offices and five school districts in the three-state Laboratory region, we concentrated on several institutional indicators of a program's relative importance:

> Credentials or specializations in middle school teaching or administration; the course sequence or enrollment advice given to persons expressing an interest in middle level teaching;
>
> The number, content and status of higher education courses concentrated on middle schools or on early adolescence;
>
> The number of student teacher placements in middle schools, the procedures by which those placements are decided, and the expectations that govern them;
>
> Faculty views on middle schools, i.e., the degree to which they believe them to be well-founded in theory, deserving of separate preparation and licensing, and appropriate sites for research;
>
> The nature and extent of assistance provided by districts to middle school teachers and administrators.

The Status of Middle School Teacher Preparation

While middle school teacher preparation programs can be found, and do have their enthusiastic advocates, such programs remain by far the exception rather than the rule (McEwin, 1983; McEwin and Alexander, 1982). In Congressional testimony prepared in 1980, Joan Lipsitz of the Center for Early Adolescence reported that teacher certification was in a state of flux, and that the quality of preservice and inservice education was uncertain. By 1977, 15 states had established special middle school certification. By 1983, a survey of state departments of education revealed 25 states with special middle level teacher certification (McEwin and Allen, 1983). Even in those states with special certification, however, elementary teachers are typically allowed to teach 5th and 6th grades in middle schools and secondary teachers are allowed to teach grades 7 and 8. Only eight of the twenty-five states with certification provisions require that teachers hold such a certificate before being assigned to middle school teaching.

Overall, enrollment in middle school programs is small, and the existence of such programs relatively unstable. Few courses are offered, much less required, in early adolescent development. Among the nine regional institutions surveyed by Laboratory staff, one offers a distinct middle school program leading to state certification, one is planning two elective courses in adolescent development and middle school organization, and a third offers a single elective course on middle school philosophy and early adolescence. Some teacher educators voiced the hope that the special requirements of middle school teaching could be "picked up" during field placements.

Prospective teachers who express interest in middle level teaching are generally advised to enroll in the basic secondary teacher preparation program, and to supplement this basic preparation with special coursework or field placements geared toward early adolescents. There are some exceptions. In an effort to match the preservice experience most closely to the middle school work, one institution encourages students to enroll in the elementary program, and to take extra courses at the secondary level. Two other institutions have K-8 core programs, with special seminars to meet certification requirements. By adding coursework or field experience in middle schools, prospective teachers may add to their options for finding a teaching job. Still, extra coursework and extra field experience are hardly incentives geared to recruit candidates to this level of teaching.

Influences on Program Development

The present standing and future prospects of middle school teacher preparation programs can be traced in part to five conditions. In the views of teacher educators and others, these conditions largely account for the fate of specific programs, and for the institutional decisions to promote them or curtail them.

State certification requirements. Responsiveness to state certification requirements ranks high on the list of criteria by which teacher education programs judge the importance of new program initiatives (or the preservation of established ones). In one survey of teacher preparation programs, Alexander and McEwin (1982) found that institutions were not planning to initiate special middle level programs until their states mandated middle level certification. Only one of the nine institutions surveyed by the Laboratory is currently operating a middle school program, developed in 1980 following newly enacted state certification requirements. In addition, respondents described a flurry of activity to map institutional responses to the rapidly spreading teacher competency movement; some reported that at one time, the changes in requirements "came so fast that we simply added courses to satisfy them." Now, they say, the pace has slowed and committees are reviewing their course offerings for overall program coherence. State initiatives on teacher competencies and other topics may command large portions of faculty time and may distract from the energy devoted to smaller, specialized programs.

Ironically, the thrust of these comments is to place the initiative for substantive program development in the hands of state regulatory agencies; however, many state departments surveyed by Alexander and McEwin (1982) reported that they took their lead from the institutions of higher education, and were reluctant to move for state certification in the absence of established preparation programs.*

Student enrollment. For good or for ill, student enrollments weigh heavily in determining the fate of preservice programs. Throughout the Laboratory's region, middle school programs have had difficulty in attracting participants. Low enrollments accounted for one university's decision to abandon a three-year old program that was considered "a good program" by the teacher education faculty. The only established middle school program among the nine institutions surveyed is having difficulty maintaining enrollments; students participate in the middle school program in addition to their obligations in either elementary or secondary preservice programs.

School district interests and requirements. The very emergence of middle school programs and elective courses reflects effort on the part of preservice programs to remain attentive to changes in the educational landscape. Frustrated by their search for qualified and enthusiastic middle school teachers, principals encourage local teacher training institutions to concentrate more on the early adolescent and on key aspects of "middle school philosophy": the range and rapidity of social, emotional and cognitive development; the emphasis on experiential learning; the emphasis on interdisciplinary curricula; flexible grouping; and more. One state university surveyed by Laboratory staff has recently designed two new middle school courses, partly in response to the persistent, enthusiastic encouragement of local building principals.

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*Without underestimating the boundaries established by state legislative and policy initiatives, and the difficult choices that such initiatives may force, it is also clear that state "requirements" may create welcome opportunities to launch new programs or to abandon old ones. The process of shaping and living up to requirements is necessarily more dynamic and interactive than we are able to show with these limited data on middle school preparation. It is unlikely that universities and colleges abdicate their role in program development wholly to state regulatory agencies, or that such agencies assume the full burden for making substantive judgments about teacher training curricula. It seems more plausible that state certification requirements, when they finally appear in print, represent some combined judgments about preparation priorities and the capacity of IHE's to meet them.

Such efforts to be responsive to district concerns are made difficult in several ways. First, local priorities are beyond the direct influence of university faculty and are subject to change. A university program that is tied closely to a particular local initiative is at once highly responsive and highly vulnerable. At one university a new course was created on the Junior High/Middle School in response to requests from local principals. After two years the course has received positive response from students. At another institution, however, after faculty members spent a full year planning and implementing a new middle school program, some school districts have begun to shift back to a junior high school configuration and enrollment in the new program has dropped. Such local decisions about grade configuration are based only in part on educational issues and in part on patterns of enrollment, available facilities and community sentiment (Molitor and Dentler, 1982).

Second, the range of grade and program configurations that parade under the general label of "middle school" is broad indeed; as of December, 1979, more than thirty different combinations of schools serve young adolescents, excluding K-6 and 1-6 schools and including schools with either 6 or 8 (see below). From one district to another one can anticipate widely diverse variations on a theme. At the risk of appearing "too general" or too oriented toward "just theory," universities may opt for curriculum choices that emphasize breadth over depth.

School Grade Organization		Number
Traditional Jr.H.S.	7-9	4,000
Comprehensive	1-12	3,662
Middle Schools	6-8	3,070
Middle Schools	7-8	2,628
Elementary Schools	1-8	1,315
Middle Schools	5-8	1,024

These were 19,650 schools for young adolescents other than K-6 or 1-6 elementary schools (from MDR, 1980, cited in Lipsitz, 1980).

College organization and reorganization. To the influences exerted by the state, local districts and student program preferences one might add that of the college of education itself. The way in which the college is governed, programs are configured or faculty aligned, the areas for which individuals are known or in which they seek a reputation, all work to encourage or discourage the development of a middle school program. In one of the nine institutions surveyed, for example, a teacher preparation program was suddenly shifted to the Science Technology and Math division of the College of Education. This has resulted in a change of program focus, and courses have been revised to reflect this change.

Individual interests and entrepreneurs. Whatever the other influences, new program development also appears to require the driving interest, energy and commitment of individuals or small teams who prepare the intellectual ground and leap the bureaucratic hurdles. Among the nine institutions surveyed, only one is now working to launch a new middle school program. The effort has been orchestrated by a small number of interested faculty who have prepared courses for approval and have recruited interested students.

In sum, middle school teacher preparation programs occupy a relatively small place in preservice teacher education. Enrollments have remained relatively low, faculty involvement has fluctuated, and courses or programs have come and gone over a period of twenty years. The ability of an institution to develop or sustain such a program appears to rest on (1) state certification and competency requirements; (2) the perceived needs of schools and districts; (3) current institutional priorities and concerns; (4) adequate enrollment; and (5) congruence with the research and teaching interests of individual faculty members.

A synthesis of data collected from the nine institutions of higher learning represented in our survey appears in Figure 4. Illustrated are the variety of programmatic characteristics among the teacher preparation programs and some of the influences on program development.

Preparing for Transition to Work in Middle Schools: The Nature of the Field Experience

While institutions vary widely in the coursework they offer for prospective middle school teachers, virtually all teacher training institutions are in a position to offer student teaching or other field experience placements. For students struggling to match general principles to the specific demands of a middle school environment, an orchestrated set of field placements may constitute the major opportunity. In recent years, most institutions have expanded the place of field experience in the teacher preparation curriculum. In one survey of 270 institutions, 99% reported that they offer early (pre-student teaching) field experiences, including observation, small group work, and tutoring (Nemser, 1983). Of the nine institutions participating in the Laboratory's survey, most offered early field experiences as part of coursework leading up to student teaching. These early placements are intended to help students "see" the relevance of formal coursework to the classroom problems and make connections they might not otherwise make. Nemser (1983) speculates that the shifting proportion of field experience and classroom study may reflect the faith that teacher educators and teachers have in the experiential side of learning to teach. Nonetheless, teacher educators interviewed by the Laboratory wondered aloud about the ability of their programs to "prepare teachers to be reflective about what they do," to "question their values and beliefs," and to be "self-critical." Their comments underscore the moral, emotional and intellectual dimensions of teaching that may remain unexamined in a program heavily weighted toward field experience, or in a program where field experiences, student teaching placements and coursework are not well integrated. Although each of the nine institutions surveyed provides middle school field placements

FIGURE 4.
CHARACTERISTICS OF TEACHER PREPARATION PROGRAMS FOR MIDDLE LEVEL SCHOOLS

	MILLS	SAN FRANCISCO STATE	CAL STATE HAYWARD	SAN JOSE STATE	ERA U.C. BERKELEY	STANFORD	CAL STATE POLYTECH.	U. OF NEVADA RENO	UNIVERSITY OF UTAH
PREPARATORY PROGRAMS FOR MIDDLE LEVEL TEACHERS									
Middle School									X
Middle School (Past)			X	X					
Middle School (Planned)		X							
Single Subject (Secondary)	(X)	X		X	(X)	X	X	X	
Multiple Subject (elementary)			X						
K-12	X				X				
FIELD COMPONENT-STUDENT TEACHING									
Full School Year					X	X			
Full Academic Year	X								
1 Term		X	X				X	X	
More than one term or semester				X					
Early Experience	X	X	X	X		X	X	X	X
Full Time (At least 4 and 1/2 days)	X	X	X				X		
Part Time					X	X	X		
More than one student teaching asignment	X	X	X	X	X		X		X
Paid Internship						X			
PROGRAM RESPONSES									
State Certification									X
Program Enrollment			X						X
Needs of School District	X	X						X	
General Improvement	X	X	X	X	X	X	X	X	X
Feedback from Graduates and Experienced Teachers	X				X				X
College Reorganization				X					
Professor's Research Interest				X		X			

for interested students, only one has a full-scale middle school program that readily permits such integration of principle and practice.

District Programs of Training and Support

Judging by the relative absence of specialized preparation programs, and by the wide diversity in districts' middle school programs, the obligation (or opportunity, depending upon one's point of view) for preparing and assisting middle school teachers falls to district personnel, building principals and the teachers themselves.

To uncover prevailing approaches to local training and support, we sought districts which had recently made the transition from junior high to middle school and in which programs of assistance might be most prominent. We interviewed personnel from five school districts and two county offices. Of the districts represented two had made a transition to middle schools during the past seven years; one district spoke from fifteen years' experience, while two others were in their first year of operation.

Districts' Commitment to Middle Schools

A philosophical commitment to middle schools served as a starting point for each of the districts. Board support was secured on the basis of task force recommendations, and the implementation was launched from a platform of sound educational decisions. Without denying the role of external forces--declining or shifting enrollment, desegregation requirements--in producing or hastening the district's decision, interviewees stressed the educational basis of the move and the importance of policy level endorsement.

Making the Transition

Having committed to a transition from junior high schools to middle schools, districts were confronted with challenges that ranged from rearranging physical facilities to boosting the morale of displaced teachers and principals. Not all of the pressing problems have been resolved; not all of them lend themselves to help from staff development programs; but all of them have their effect on the ability and willingness of teachers and others to give middle schools a serious try. A sample of typical problems includes these:

Moving the bodies. The sheer logistics of school reorganization are complex in their own right and may take priority over issues of "middle school philosophy". Two large districts are still struggling to find adequate space for ninth graders in existing high schools after six years of implementation. One district still operates a 7-8-9 school. The other district created special ninth grade schools until declining enrollment freed space in the high schools; two ninth grade schools remain to be incorporated into the high schools.

Teacher morale, faculty turmoil, and general uncertainty. Teachers' orientation toward middle schools is heavily bound up with matters of status; teachers who consider themselves "high school teachers" may be content to teach ninth graders in a junior high school, but contemptuous of an assignment to a middle school. In addition, changes in school size and curriculum complexity may leave teachers with less access to curriculum specialists or sophisticated equipment. Faculties were merged, new principals were assigned, and established social dynamics were thrown into turmoil. Teachers scrambled to learn new program structures, new colleagues, new students, and new curriculum at one and the same time. As one sixth grade teacher said, "At the beginning I felt like a new teacher, flying by the seat of my pants looking for materials, and constructing new units. I enjoy it now, but it sure was busy in the beginning."

It would not do to overplay the turmoil, or to make people and institutions appear less sturdy than they are. Yet a critical view, held even by a few, makes faculty solidarity more difficult to achieve and chips away at the interest others may have in learning and trying the principles of a middle school education.

New ways of working together. The emphasis on working cooperatively in interdisciplinary teams runs counter to teachers' usual experience; most were accustomed to working independently. In one new middle school which is encouraging interdisciplinary planning and teaching, team organization is voluntary during the first year. Some teachers plan together and teach a common pool of students. Others team teach a core curriculum (e.g., English and Social Studies). Still others have continued to teach in the departmental structure. In another district, a bonus of additional faculty was offered to all schools that agreed to implement the new team structure on the grounds that interdisciplinary teaming was more difficult and required more personnel.

Other demands. And finally, districts had to contend with other mandated federal and state regulations, such as mainstreaming and bilingual instruction, and a diminished source of funding caused by Proposition 13. They did not have the luxury of putting all their energy into making a successful transition.

District Support to Teachers and Administrators

In all districts, the shift to middle schools required teachers and administrators to attempt schoolwide and classroom practices that were both unfamiliar and complex. Common among all the districts was a shift from a departmentalized subject orientation to an interdisciplinary perspective. One district described the team approach as a "move toward an elementary orientation, where teachers are responsible for more than one subject area, a block approach." If the multiple subject orientation was familiar, other aspects of the intended shift were not. Teachers were expected to work in interdisciplinary planning teams with common planning periods to discuss curriculum, instructional strategies, and the needs of students in the team. The teams were expected to work cooperatively, securing agreement on curriculum emphasis, student placement and grouping, and other aspects of planning and instruction that many teachers were accustomed to deciding as individuals.

District plans for a core curriculum, team-teaching, flexible scheduling, advisor programs, a broad range of exploratory offerings, independent study, and an introduction of a reading curriculum similar to that used in elementary schools all added to the demands on teachers' abilities, energies and commitments.

If it is true that teachers rise to a challenge, and that some complex innovations stand a better chance of implementation than some more simple ones (Berman and McLaughlin, 1978), the transition to middle schools should provide its full measure of challenge. In their review of the innovation literature, Fullan and Pomfret (1977) argue that complex innovations require simultaneous attention to changes in belief or perspective, behavior, materials and role relations. What role did districts play in building a shared understanding of the philosophy? Making changes in curriculum content, sequence and materials? Introducing new instructional strategies? Helping teachers to make interdisciplinary teams productive and satisfying? Helping to organize and support advisor-advisee programs?

Four examples illustrate the wide range of training, assistance and support from district to district:

A policy without a program. When the school board of one large city decided that a middle school structure was better for children than junior high, it relied on the force of policy alone to foster skillful and dedicated implementation. No organized support was planned or given. As one district coordinator said, "They got the cart before the horse, and made the change before any inservice was done in the schools." Judged against the array of intended middle school program features, implementation here is meager, with a few schools operating a limited core curriculum. Now, five years after the original policy decision, the district has received a grant from its board to spend a year planning for substantial changes in organizational and instructional strategies. They anticipate a shift from departmentalized teaching to a combination of interdisciplinary and departmentalized instruction. At this point in their planning, which is in the early stages, they are planning to train all teachers and administrators in the middle school philosophy, in an attempt to orient them "more toward kids than subject matter." They also plan to staff the schools with elementary principals as principalships come open; this year two positions were filled with elementary principals.

Counting on the principal. In two small school districts, the key factor in the planning of middle schools was the recruitment of the "right kind" of principal, one of whose responsibilities was to develop staff development for the faculty. In one case, the district launched the program (and the school year) by providing one large inservice to all teachers on middle school philosophy and the nature of the middle school child; subsequent training and support were in the hands of the building principals. In a second case, the district encouraged school-based planning and staff development from the beginning, relying on the initiative of the principal.

Good plans and unforeseen circumstances. A year-long planning period for middle school transition in one urban district culminated in a training manual for all faculty, which included highlights of middle school philosophy and ideas for implementation, and a group of twelve carefully chosen teachers trained in group process skills and middle school philosophy. The group planned to provide workshops for teachers and administrators during the early phases of implementation. The group succeeded in leading one successful "trial run" for 125 teachers, shortly prior to passage of the Proposition 13 referendum that diminished the schools' tax base. School funding for the project was cut back, and all future district inservice plans were aborted. Now, assistance to middle school faculty is handled primarily by the building principals, and an effort is being made to fill vacant principalships with people who are committed to the middle school philosophy. In an effort to concentrate its limited resources on points of greatest potential influence, the district's staff development office has organized a monthly meeting for all sixteen middle school principals. The meeting provides a forum for discussing issues of common interest and for providing both technical and moral support.

A large investment that paid off. A substantial investment in planning, preparation, training and ongoing assistance has made one district a statewide model of successful middle school transition. Over a million dollars was committed to initial preparation and training activities. In a first stage, principals, curriculum coordinators and school board members attended a middle school workshop sponsored by the Association for Supervision and Curriculum Development (ASCD). The participants returned from the conference committed to the middle school philosophy. They planned and conducted a large inservice workshop for all faculty who would be teaching at the new schools (essentially the same teachers from the previous junior highs). During the first implementation year all faculty members were released from their teaching responsibilities for three weeks to participate in additional meetings. These meetings were handled in clusters--six teachers from each of the four schools--so that a "cross-fertilization" of faculties at each workshop was created. All school board members, principals, and district administrators participated in at least one of these meetings, to reinforce district commitment to the philosophy. Six years after the transition began, each school has developed its own distinctive approach. District staff believe that a key to their success has been the deliberate recruitment and selection of principals who are both intellectually and emotionally committed to the principles of middle schools, and who have been able to lead their faculties in designing programs that reflect these underlying principles.

This district has developed a regional reputation as a model for providing a successful transition to middle schools. Several districts have sent personnel to observe the schools and get help with their transition plans. Representatives from the district have provided training for other districts.

Conclusions

That the attempt of institutions of higher learning and school districts to respond to the specific needs of the middle level learner has proven to be difficult and complex is not surprising. At the preservice level, teacher educators must respond to state certification requirements, university concerns (such as program enrollment and faculty interests), and the perceived needs in the field, as they plan and implement the best possible preservice preparation for their students. At the same time districts (e.g., superintendents, staff developers and principals) must contend with declining sources of funds, school board support, and faculty compliance with a new interpretation of their role.

At its strongest, inservice support combined policy level endorsement, a persistent tie to guiding ideas ("middle school philosophy"), the careful selection and support of building principals, and skills training backed by a long-term system of support.

The job of instituting large-scale reforms and appropriately preparing new teachers is too big for either group to do alone. Institutions of higher education can provide principles of adolescent development and appropriate instructional techniques, which capitalize on these developmental characteristics, and districts can handle school configurations, specific classroom practices, and approved curriculum. An approach which marshalls the combined resources of teacher preparation programs and school districts may provide the strongest integration of underlying conceptual principles, local policy, and effective classroom practice.

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